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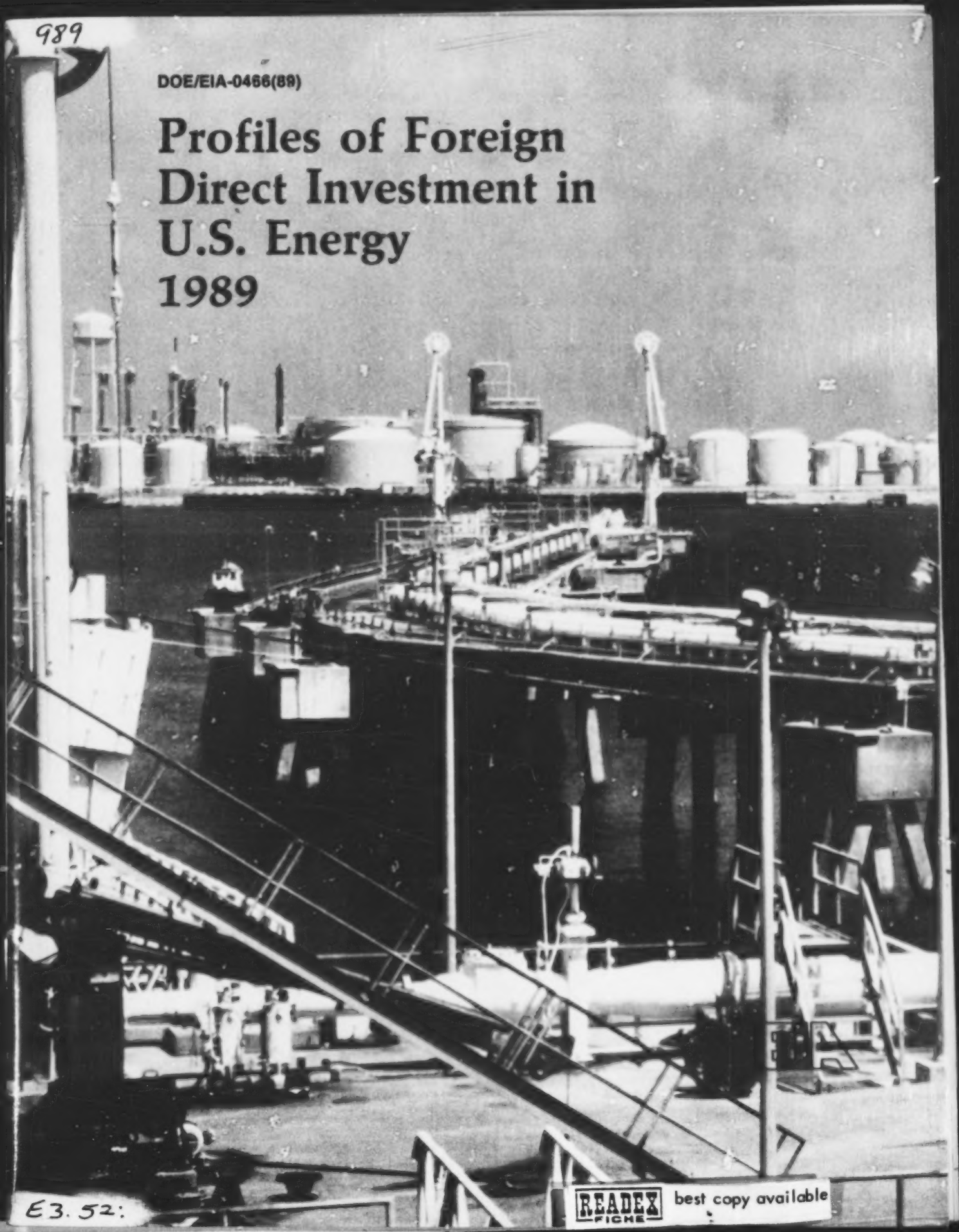
Profiles of Foreign Direct Investment in U.S. Energy 1989



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Energy Information Administration
Office of Energy Markets and End Use
U.S. Department of Energy
Washington, DC 20585

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Preface

In accordance with Section 657, Subpart 8, of the U.S. Department of Energy Organization Act, the Energy Information Administration (EIA) prepares an annual report for the Secretary of Energy and for transmittal to Congress. This report summarizes the activities in the United States by foreign-affiliated companies that own or control U.S. energy sources and supplies.

The following profiles for 1989 are presented:

- Foreign direct investment in U.S. petroleum, including natural gas, and coal mining.
- Energy production, processing, distribution, and reserves of foreign-affiliated companies.
- Financial performance and investment activity of foreign-affiliated energy companies.
- Overseas petroleum operations of U.S. companies.
- Comparisons of foreign-affiliated companies with U.S. energy companies.

The information contained in this report is intended for use by the Congress, Government agencies, energy industry analysts, international trade and finance analysts, and the general public.

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Executive Summary

Profiles of Foreign Direct Investment in U.S. Energy 1989 describes the role of foreign ownership in U.S. energy enterprises, with respect to investment, energy operations, and financial performance. Data are used from the Energy Information Administration (EIA), the U.S. Department of Commerce, company annual reports, and public disclosures of investment transactions.

Of the approximately 80 companies profiled, the major foreign-affiliated U.S. companies identified by the EIA are Shell Oil Company, BP America, E.I. du Pont de Nemours and Company, and American Petrofina. Foreign ownership ranges from 23 percent of Du Pont to 100 percent of Shell Oil and BP America.

Examination of the foreign-affiliated companies' share of U.S. energy activities measures changing foreign investor interest in U.S. energy markets. The data measure changes in material ownership interest as defined by the U.S. Department of Commerce. Foreign affiliation does not necessarily imply foreign control. As little as 10-percent ownership of a company's voting securities (or the equivalent) by a single foreign investor can constitute foreign affiliation. The determination of control is a complex and often subjective process in which many factors other than the percentage of ownership must be considered.

Highlights of this report are given below:

- For all enterprises in the United States (energy and non-energy), additions to the foreign direct investment position (FDI)[1] increased by $72.0 billion in 1989, following an increase of $57.1 billion in 1988. Additions were greatest for the chemical industry ($12.1 billion) followed by the financial industries outside of banking ($9.3 billion). United Kingdom investors accounted for 24 percent of the 1989 additions to FDI and the Japanese investors' share was 23 percent.

- Enterprises classified in petroleum operations (including natural gas) and coal mining account for all energy-related FDI, which amounted to $38.7 (billion in 1989).[2] In petroleum, excluding the effect of BP America's payment on a note to their foreign parent in 1988, additions to FDI in U.S. petroleum fell from $1.5 billion in 1988 to $0.4 billion in 1989. This decline reflected a reduction in the number of large transactions (greater than $100 million in value) related mainly to oil and gas production. Transactions related to U.S. refining and marketing also were at a lower level in 1989. The petroleum industry's share of FDI fell to 9 percent, the lowest level since at least 1974.

- The largest 1989 acquisitions in U.S. petroleum by foreign investors involved refining and marketing assets. As a result of these acquisitions, the foreign-affiliated companies' share of U.S. crude distillation refining capacity rose from 25 percent in 1988 to 27 percent in 1989. As recently as 1984, foreign affiliates accounted for less than 15 percent of U.S. refining capacity. The increase in foreign investor interest in U.S. refining and marketing, in recent years, reflected a turnaround in the profitability of these operations and a strategy of integration into U.S. downstream petroleum operations by Venezuelan and Saudi Arabian state energy companies. Transactions in 1989 in excess of $100 million involving acquisitions of U.S. refining and marketing assets included:

  - Petroleos de Venezuela's formation of the Uno-Ven joint venture with Unocal Corporation, which was valued at $500 million. The state energy company of Venezuela formed the Citgo Petroleum joint venture with Southland Corporation in 1986 and the Champlin Petroleum joint venture with Union Pacific in 1987.

  - Broken Hill Proprietary Company, Ltd., of Australia, entered the U.S. refining sector by acquiring Pacific Resources and their Hawaiian Independent Refinery for $378 million.

  - Total Petroleum North America, Ltd., an affiliate of Total Compagnie Francaise des Petroles, purchased 120 retail gasoline outlets for $115 million.

[1]The foreign direct investment position (FDI) is the cumulative net flow of funds between a foreign-affiliated company and its foreign owners. The U.S. Department of Commerce, the agency that collects data on FDI, measures FDI as the book value of foreign direct investors' equity in and net outstanding loans to their U.S. affiliates. The Department of Commerce defines a U.S. affiliate as a U.S. business enterprise in which one foreign direct investor owns 10 percent or more of the voting securities or the equivalent.

[2]The U.S. Department of Commerce classifies uranium mining in the "other metallic ores" industry. The value of FDI in the industry, "electric, gas, and sanitary services," which includes gas and electric utilities, amounted to less than 0.05 percent of FDI in petroleum and coal.

- Foreign investor acquisitions of U.S. oil and gas production assets were down sharply from 1988. This decline reflected the much reduced level of overall merger and acquisition activity in U.S. oil and gas production, compared with 1988. In addition, lease acquisitions were much lower in comparison with the record level of Federal Outer Continental Shelf lease offerings in 1988. Foreign investor acquisitions in U.S. oil and gas production in 1989 which exceeded $100 million included:

  - Presidio Oil Company, of Denver, in which Electra Investment Trust of the United Kingdom holds a 14-percent ownership interest, acquired the properties and operations of Home Petroleum Corporation for $157 million.

  - Du Pont's Conoco unit purchased three natural gas processing plants and other assets from Enerfin Partners for $135 million.

  - Japan Exploration Company, Ltd. (JAPEX) and Consolidated Natural Gas Company jointly acquired Mark Producing Inc. JAPEX contributed $102 million for their 40-percent stake.

  - Hyundai Corporation, South Korea, and OPICOIL American Inc., an affiliate of the Chinese Petroleum Corporation of Taiwan, entered a $100 million joint exploration venture with Phillips Petroleum Company. The foreign partners' share of the total cost was $80 million.

- In 1989, the role of foreign affiliates in U.S. petroleum operations increased in refining but was little changed in oil and gas production (Figure ES1):

  - The Uno-Ven transaction and the acquisition of the Hawaiian Independent Refinery raised the foreign-affiliated companies' share of U.S. crude oil distillation capacity from 25 percent in 1988 to 27 percent in 1989.

  - Foreign affiliates' shares of U.S. oil production and U.S. natural gas production were essentially unchanged, at 17 percent and 8 percent, respectively. This lack of movement reflected the reduced level of oil and gas acquisition activity by investors in 1989.

- FDI in U.S. coal was 9 percent of the value of FDI in energy. However, in 1989, FDI in coal reached a new peak. Developments related to foreign investor activity in U.S. coal and uranium included:

  - Costain Holdings, Inc., a subsidiary of Costain Group of the United Kingdom, acquired Pyro Energy for $193 million. Prior to this transaction, Costain owned 50 percent of Pyro Mining, a coal-producing subsidiary.

  - The slight rise in the foreign-affiliated companies' share of U.S. coal production stemmed from acquisitions by foreign-affiliated companies in 1989. Foreign-affiliated companies' share of U.S. coal production was slightly over 21 percent (Figure ES1).

  - The share of U.S. uranium exploration and development expenditures of foreign-affiliated companies declined from 44 percent in 1988 to 42 percent in 1989. Nevertheless, the foreign affiliates' share was much higher than the 8 percent to 28 percent share prior to 1986.

- Apart from the effects of unusual items related to litigation settlements and provisions largely for environmental matters, the financial performance of energy companies, overall, continued to improve from the low levels of 1986. Increased income from oil and gas production, which benefited from a rise in crude oil prices in excess of $3 per barrel between 1988 and 1989, more than offset declines in income from refining and marketing and energy companies' chemical operations. Return on equity for foreign-affiliated energy companies rose from 10.9 percent in 1988 to 11.3 percent in 1989. Excluding the effects of unusual items, other energy companies also registered a modest increase in their return on equity, from 12.3 percent to 12.7 percent.

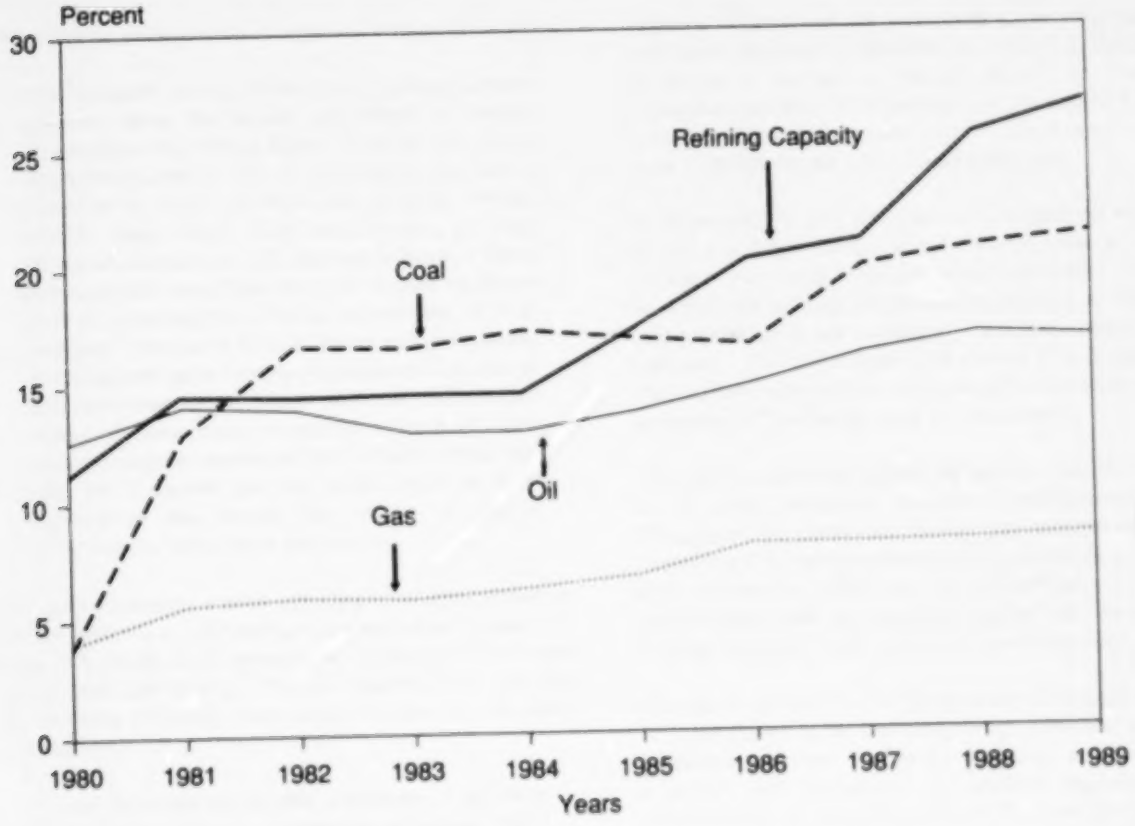
- Investment in petroleum flows both in and out of the United States. Key developments in outward petroleum investment included:

  - Additions by U.S. companies to direct investment in foreign petroleum had a value of $0.2 billion in 1989, up from a negative $2.2 billion in 1988. The reduction in 1988 was largely related to major petroleum companies' restructuring efforts, which included divestitures of some foreign petroleum operations.

  - The largest transaction in 1989 was Exxon's acquisition of Texaco Canada for $4.1 billion. However, since this transaction effectively transferred ownership between two U.S. companies, it had little overall effect on the U.S. direct investment in foreign petroleum.

  - Investment flows, measured on a net basis, obscure the continuing interest of U.S. major petroleum companies in foreign oil and gas development. The foreign share of worldwide exploration and development expenditures, reported by major petroleum companies in the EIA's Financial Reporting System, increased from 27 percent in 1984 to 49 percent in 1989.

Figure ES1. Foreign Affiliates' Share of U.S. Production of Oil, Gas, Coal, and U.S. Refining Capacity, 1980-1989



Sources: Tables 7, 9, and 12 in Chapter 3 of this report. U.S. Department of Energy, *Annual Report to Congress*, DOE/S-0010(84) (Washington, DC, September 1984). Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy*, 1983, 1984, 1985, 1986, 1987, and 1988, DOE/EIA-0466 (Washington, DC, 1984-1989).

1. Introduction

According to a Congressional report on foreign investment:[1]

> "The Congress and the Public have expressed serious concerns about the impact and effects of foreign investment in the United States. They are concerned about the possibility that, if the assets or the natural resources of large U.S. firms end up under foreign control, those firms could be operated in ways ultimately harmful to U.S. national interests. These concerns arise out of the reports of foreign takeovers of high technology U.S. firms, acquisitions of U.S. farmland, investment in U.S. banks and government securities, and large foreign purchases of U.S. energy and other natural resources with the concomitant export of these scarce resources. Some of these concerns may be unfounded, but it is self-evident that both the Congress and the public must be fully apprised of the impact and effects of foreign investment to make these judgments."

The above concerns extend specifically to involvement of foreign interests in U.S. energy as evidenced by Section 657, Subpart 8, of the U.S. Department of Energy Organization Act (Public Law 95-91). This act requires, *inter alia*, that the Secretary of Energy report to the President for transmittal to Congress:

> ". . . to the extent practicable, a summary of activities in the United States by companies or persons which are foreign owned or controlled and which own or control United States energy sources and supplies, including the magnitude of annual foreign direct investment in the energy sector in the United States . . . ."

The Energy Information Administration (EIA) annually prepares a report, pursuant to the legislative requirement.[2] Versions of the report, for years prior to the 1983 reporting year, have appeared as Appendix A in the U.S. Department of Energy's *Secretary's Annual Report to Congress*. Beginning with the 1983 reporting year, the annual report on foreign investment and ownership in U.S. energy has been made available by the EIA in published form.

By definition,[3] "a U.S. affiliate is a U.S. business enterprise in which a single foreign direct investor owns at least 10 percent of the voting securities, or the equivalent." It should be noted that holding 10 percent or more of a company's voting stock does not necessarily constitute control of that company. The determination of control is a complex and often subjective process in which many factors other than the percentage of ownership must be considered.

This report reviews the patterns of foreign ownership interest in U.S. energy enterprises, exclusive of portfolio investment. Throughout this report such foreign non-portfolio ownership interests in U.S. energy companies are referred to as "foreign direct investment" (FDI) and the U.S. affiliates in which a foreign entity holds an ownership interest are referred to as "foreign-affiliated" U.S. enterprises or companies.

This report also profiles the involvement of foreign-affiliated U.S. companies in the following areas: domestic petroleum production, reserve holdings, refining and marketing activities, coal production, and uranium exploration and development. A financial profile of U.S. energy companies that are foreign-affiliated is presented, comparing 1989 with 1988. For the petroleum industry, the report includes the international composition of ownership, as well as information on the flow of capital and income between the foreign owners and the foreign-affiliated companies. In addition, this report summarizes recent acquisitions of ownership interests in U.S. energy companies by foreign investors.

[1] U.S. House of Representatives, Committee on Government Operations, *The Adequacy of the Federal Response to Foreign Investment in the United States* (August 1980), p. 2.

[2] A report on exports of energy, required by the same legislation, is in U.S. Department of Energy, *The Secretary's Annual Report to Congress*, DOE/S-0010(89) (Washington, DC, 1990).

[3] U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, June 1990). Also, it should be noted that, consistent with its definition, FDI activities portrayed throughout this report do *not* include any foreign investment activities in connection with less than 10 percent ownership, which is known as portfolio investment.

2. Foreign Direct Investment in U.S. Petroleum and Coal

The information on the foreign direct investment position (FDI) in the United States is derived from published data from the U.S. Department of Commerce. The data are obtained from quarterly reports required of foreign-affiliated U.S. enterprises. FDI is the cumulative net flow of funds between a foreign-affiliated company and its foreign owners. These capital flows consist of stock purchases and paid-in capital, retained earnings and other equity, and loans from and to the foreign parents.[6] The change in FDI is neither a direct measure of capital expenditures in the United States by foreign-affiliated U.S. companies nor the total value of acquisitions of ownership interests by foreign investors. *Foreign direct investment* is a measure of the net flow of capital between the foreign entities and their U.S. affiliates. It should be emphasized that investment flows out of, as well as into, the United States. As is reported in the next section, U.S. direct investment in petroleum abroad exceeds petroleum FDI in the United States, although the difference has been declining in recent years.

For U.S. Department of Commerce reporting purposes, petroleum consists of crude oil production (including natural gas liquids), natural gas production, oil field services, integrated refining, marketing, and petroleum transport. Due to the prominence of the major petroleum companies, foreign-affiliated companies classified in integrated petroleum refining accounted for 80 percent of the FDI in U.S. petroleum in 1989. The major foreign-affiliated U.S. petroleum companies identified by the Energy Information Administration (EIA) are Shell Oil Company, BP America, E.I. du Pont de Nemours and Company, and American Petrofina. Foreign ownership ranges from 23 percent of Du Pont to 100 percent of BP America and Shell Oil.

Information on the role of foreign-affiliated companies in petroleum and other U.S. energy operations, based on EIA and other data sources, is presented in Chapter 3.

Foreign Direct Investment and Rates of Return in U.S Petroleum

The FDI in U.S. petroleum was $35.1 billion in 1989, a $0.4 billion increase from 1988 (Table 1). For the United States as a whole, FDI increased by $71.9 billion in 1989. As a result, the petroleum industry share of total FDI fell to 8.8 percent, the lowest level since at least 1974. The general decline in oil prices, which began in 1981, apparently has reduced the attractiveness of U.S. petroleum as an investment target for foreign investors relative to other U.S. industries. Between 1982 and 1989, FDI in U.S. petroleum nearly doubled but for FDI outside of petroleum FDI increased more than threefold. Similarly, as a target for U.S. direct investment abroad, petroleum has diminished in importance. In 1989, petroleum accounted for 15.5 percent of direct investment abroad, considerably below the peak value of 27.8 percent in 1982.

Net additions to FDI in U.S. petroleum rose from negative $0.9 billion in 1988 to positive $0.4 billion in 1989 (Figure 1). The negative value in 1988 was due to BP America's payment on notes to its United Kingdom (U.K.) parent, British Petroleum, of $2.4 billion.[7] Excluding this transaction, additions to FDI in U.S. petroleum declined from $1.5 billion to $0.4 billion. This decline reflected the overall decline in merger and acquisition activity in U.S. oil and gas in 1989.[8] Merger and acquisition activity was at a high level in 1988 due in substantial part to Tenneco's divestiture of petroleum assets for nearly $8 billion. Also, the level of Federal Outer Continental Shelf lease offerings in 1989 was down from the record 1988 level, which reduced expenditures for lease bonuses.

Investment in petroleum flows both in and out of the United States. The value of U.S. direct investment in foreign petroleum (outward investment) increased by $0.2 billion in

[6]One of the components of FDI consists of equity and intercompany account capital flows between a foreign investor and its U.S. affiliate measured on a net basis. Since this component is measured on a net basis, it can have a negative value. A detailed discussion of FDI data collection and methodology is "A Guide to BEA Statistics on Foreign Direct Investment in the United States," U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, February 1990).

[7]In their financial statement for 1988, BP America reported an outflow in repayment of long-term notes payable to affiliates of $2,434 million.

[8]One indicator of merger and acquisition activity in U.S. oil and gas production is expenditures for acquisition of proved properties. According to Arthur Anderson & Co., *Oil & Gas Reserve Disclosures* (Chicago, 1990), these expenditures were at a 5-year low in 1989.

Table 1. Foreign Direct Investment in U.S. Petroleum and U.S. Direct Investment in Foreign Petroleum, 1980-1989

Year	Foreign Direct Investment in U.S. Petroleum[a,b]	Total Foreign Direct Investment in U.S.[b]	Petroleum as a Percent of Total	U.S. Direct Investment in Foreign Petroleum[a,c]	Total U.S. Direct Investment Abroad[c]	Petroleum as a Percent of Total
	(billion dollars)			(billion dollars)		
1980	12.2	83.0	14.7	47.6	215.4	22.1
1981	15.2	108.7	14.0	53.2	228.3	23.3
1982	17.7	124.7	14.2	57.8	207.8	27.8
1983	18.2	137.1	13.3	57.6	207.2	27.8
1984	25.4	164.6	15.4	58.1	211.5	27.5
1985	28.3	184.6	15.3	57.7	230.2	25.1
1986	29.1	220.4	13.2	58.5	259.8	22.5
1987	35.6	271.8	13.1	59.8	314.3	19.0
1988	34.7	328.9	10.6	57.7	333.5	17.3
1989	35.1	400.8	8.8	57.9	373.4	15.5

[a]The petroleum industry includes all phases of petroleum exploration, production, refining, transport, and marketing.

[b]Foreign direct investment (FDI) is the value of foreign parents' net equity in, and outstanding loans to, U.S. affiliates at the end of the year.

[c]This is the value of U.S. parents' net equity in, and loans to, foreign affiliates. Data for 1987 and 1988 were revised by the U.S. Department of Commerce.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990).

1989, up from a negative $2.0 billion in 1988 (Figure 1). The reduction in 1988 largely reflected divestitures of foreign petroleum operations by major U.S. petroleum companies pursuant to restructuring plans. In 1989, the only large transaction in foreign petroleum involving a U.S. company was Exxon's acquisition of Texaco Canada for $4.1 billion. Since this transaction effectively transferred ownership between two U.S. companies, it had little overall effect on the U.S. direct investment position in foreign petroleum.

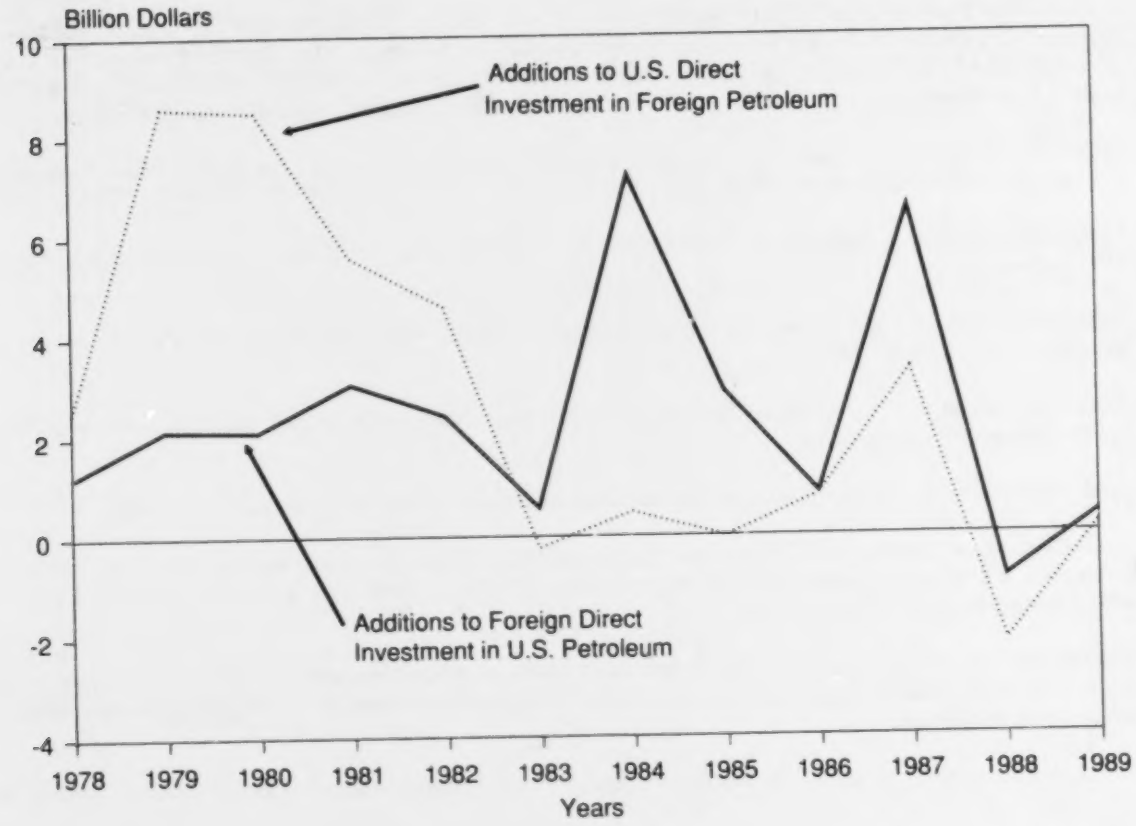
Since the outward investment values measure net capital flows, these data can mask the continuing interest of U.S. major petroleum companies in foreign oil and gas development. Based on preliminary data from EIA's Financial Reporting System (FRS),[9] major U.S. energy companies increased their foreign exploration and development expenditures by 8 percent, to $14.1 billion, in 1989, following a 41-percent increase in the prior year. The share of the FRS companies' exploration and development expenditures directed toward foreign locales has generally increased in recent years, from 27 percent in 1984 to 49 percent in 1989.

As was the case in 1988, the two largest FDI-related transactions in petroleum involved U.S. refining and marketing assets (see Box). In 1989, Petroleos de Venezuela, S.A. (PDVSA) completed a joint venture agreement with Unocal Corporation. Unocal reported a value to them of $500 million for the transaction. As a result of the transaction, Unocal transferred their Illinois refinery (147,000 barrels per day [b/d] capacity) and related petroleum marketing assets to Uno-Ven (the joint venture partnership). Also in 1989, Broken Hill Proprietary Company, Ltd. (BHP), a large Australian minerals and industrial company, entered the U.S. refining industry by acquiring Pacific Resources and their 78,500 b/d Hawaiian Independent Refinery for $378 million.

The heightened interest of foreign investors in U.S. downstream petroleum (refining, marketing, and distribution) in 1988 and 1989 largely reflected two developments. First, the profitability of U.S. refining has increased in recent years. Throughout most of the 1980's, U.S. refiners have adjusted to significant changes in product demand and composition of crude oil supply. The U.S. refining sector began the 1980's

[9]See Energy Information Administration, *Performance Profiles of Major Energy Producers 1988*, DOE/EIA-0206(88) (Washington, DC, January 1990), for detailed financial and operating information concerning the FRS companies.

Figure 1. Additions to Foreign Direct Investment in U.S. Petroleum and U.S. Direct Investment in Foreign Petroleum, 1978-1989



Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1985, August 1988, and August 1990).

with a large amount of excess capacity. Between 1981 and 1986, U.S. crude distillation capacity fell by 3 million b/d and the number of refineries declined from 324 to 218.[10] Over the same period, substantial investments were undertaken to upgrade the remaining capacity to produce higher octane, unleaded gasoline and to process a greater variety of crude oils. During this period of substantial adjustment, profits from downstream petroleum operations were generally low. By 1988, most of the adjustments were completed. Capacity utilization rates increased and the spread between refiners' product prices and crude oil input costs improved. Although the profitability of U.S. refining in 1988 and 1989 was somewhat below that of the average for the rest of U.S. industry, it was greatly improved from the previous five years.[11]

In the second development, a number of the members of the Organization of Petroleum Exporting Countries (OPEC) have made investments in order to integrate their oil production operations with petroleum refining and marketing (vertical integration). In particular, Kuwait, Saudi Arabia, and Venezuela have acquired downstream petroleum assets in industrialized countries. In the largest FDI-related transaction in U.S. petroleum in 1988 ($812 million value), Saudi Arabia and Texaco formed the Star Enterprise joint venture which involved three U.S. refineries with 615 thousand b/d of

[10]Energy Information Administration, *Petroleum Supply Annual 1988*, Volume 1, DOE/EIA-0340(88)/1 (Washington, DC, May 1989), p. 63.
[11]Energy Information Administration, *An Analysis of Heating Fuel Market Behavior 1989-1990*, SR/OG/90-01 (Washington, DC, June 1990), p. 59.

Major FDI-Related Transactions in the U.S. Energy Industry, 1989

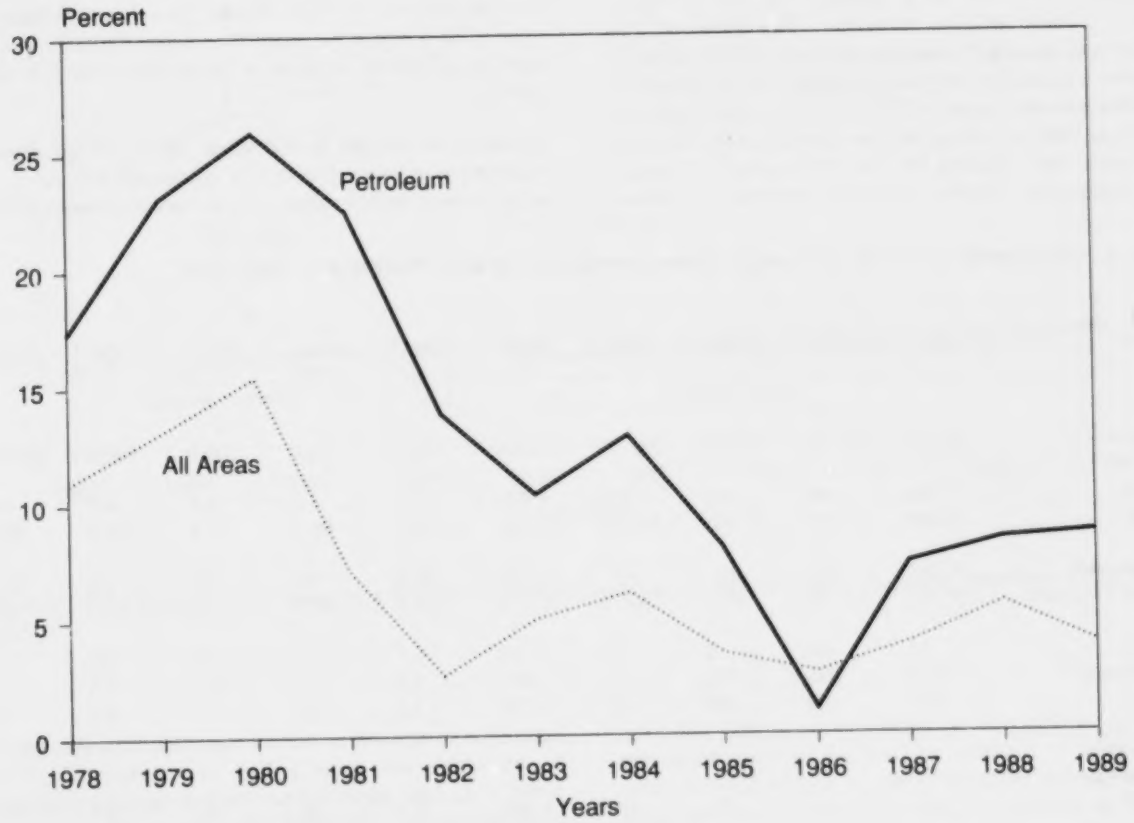
- Unocal Corporation completed a joint venture agreement with Venezuela Petroleum Holdings Inc., a subsidiary of Petroleos de Venezuela S.A., the state-owned energy company of Venezuela. The agreement formed Uno-Ven, a petroleum refining and marketing partnership. Unocal transferred their Illinois refinery (147,000 barrels per day [b/d] capacity) and related petroleum marketing assets to Uno-Ven. The value of the transaction was $500 million.
- Broken Hill Proprietary Company Ltd., Australia, acquired Pacific Resources Inc. and their Hawaiian Independent Refinery (78,500 b/d capacity) for $378 million.
- Costain Holdings Inc., a subsidiary of Costain Group plc., United Kingdom, completed a merger with Pyro Energy for $193 million.
- Presidio Oil Company acquired the properties and operations of Home Petroleum Corp., a subsidiary of Gulf Canada Resources Corp., for $157 million.
- Conoco Inc., a unit of E. I. du Pont de Nemours, purchased three natural gas processing plants and other assets from Enerfin Partners for $135 million.
- Total Petroleum North America purchased 120 Road Runner service stations and stores for $115 million.
- Japan Exploration Company Ltd. (JAPEX) and Consolidated Natural Gas Co. jointly acquired substantially all of the exploration and producing assets of Mark Producing Inc., for $245 million from Veba Oil. JAPEX contributed $101.8 million for their 40 percent share.
- Hyundai Corp., South Korea, and OPICOIL America Inc., an affiliate of the Chinese Petroleum Corp. of Taiwan, signed a $100 million joint venture exploration agreement with Phillips Petroleum Company. The foreign partners' share of the cost was $80 million.
- Newmont Mining Corp. purchased an additional 5 percent of the common stock of Peabody Holding Company for $57.9 million.
- Peabody Holding Company bought Panhandle Eastern's 50-percent interest in North Antelope Coal Company for $52 million.
- Ashland Coal completed the acquisition of Coal Mac Inc., an Eastern Kentucky coal producer, for $36.9 million.

capacity. PDVSA's joint venture agreement with Unocal in 1989 follows a series of transactions which has gained them 50-percent ownership of Citgo Petroleum's Louisiana refinery (282,000 b/d capacity) and 100 percent ownership of the Champlin Petroleum refinery in Texas (130,000 b/d capacity) (see Chapter 3 for a detailed discussion of foreign affiliates' role in U.S. refining and marketing). In January, 1990, PDVSA gained 100-percent ownership of Citgo Petroleum for $662 million.

The largest FDI-related transaction in U.S. oil and gas operations in 1989 involved two foreign-affiliated companies. Presidio Oil Company (14-percent British owned) acquired the properties and operations of Home Petroleum Corporation, a subsidiary of Gulf Canada Resources Corporation, for $157 million. Other transactions in excess of $100 million included Du Pont's (23-percent Canadian owned) Conoco unit's purchase of three gas processing plants and related assets from Enerfin Partners, and Japex's joint acquisition of Mark Producing for $102 million. Also in 1989, another $100 million U.S. drilling joint venture was formed with Pacific Rim investors. Hyundai Corporation (South Korea) and OPICOIL America (affiliated with the Chinese Petroleum Corporation of Taiwan) signed a joint venture with Phillips Petroleum. The foreign partners' share was $80 million. Similar joint ventures were formed between Chevron and Lucky-Goldstar International (South Korea) in 1988, Nippon Oil Company and Chevron in 1987, and Nippon Mining Company and Conoco in 1986.

The rate of return on FDI in petroleum[12] rose modestly in 1989, continuing the recovery from the oil price crash of 1986 (Figure 2). FDI-related petroleum income was $2,991 million in 1989, up 2 percent from 1988.[13] U.S. petroleum companies in 1989 realized higher oil and gas income, largely due to higher oil prices. However, rising crude oil prices during most of 1989 tended to squeeze refining margins and profits. Also, income from major petroleum companies' chemical operations fell somewhat from the high levels of 1988. On balance, petroleum companies' income, overall, was nearly unchanged between 1988 and 1989.[14]

Figure 2. Rates of Return on Foreign Direct Investment in the United States, 1978-1989[a]



[a]This rate of return is defined as annual income from FDI accruing to foreign parents, divided by the average of the FDI position of foreign parents at the beginning and end of the year.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1982, August 1988, and August 1990).

[12]The rate of return is defined as the foreign investors' income from foreign-affiliated U.S. companies divided by the average of the beginning-of-year and end-of-year balances of the parents' FDI position. The foreign investors' income from the foreign-affiliated U.S. company is calculated by including its share in net income (after U.S. income taxes) plus net interest paid to the parents' intercompany accounts, less withholding taxes on dividends and interest. This rate of return is not directly comparable to rates of return computed from corporate financial data. An analysis of rates of return based on financial data is provided in Chapter 4.

[13]U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990), p. 43.

[14]"Improved Energy Profits Offset by Refining Results in 1989," Energy Information Administration, *Monthly Energy Review*, December 1989, DOE/EIA-0035(89/12) (Washington, DC, March 1990).

Sources of Foreign Direct Investment in U.S. Petroleum

The value of FDI in U.S. petroleum traceable to European interests declined, between 1988 and 1989, but increased for all other regions (Table 2 and Figure 3). The largest increase, $575 million, was for Latin American interests and largely reflected PDVSA's purchase of a 50-percent interest in Uno-Ven. The increase in OPEC investors' interest also was related to this transaction. The next largest increase in petroleum-related FDI, $268 million, was for the region "other," which includes Australia. The increased FDI position appears largely traceable to Broken Hill Proprietary Company's acquisition of Pacific Resources for $378 million. Canadian investors' share of FDI in U.S. petroleum increased slightly in 1989, following the first increase in the Canadian share since 1980. During the mid-1980's, many Canadian-based companies withdrew from U.S. petroleum operations, contributing to the steady decline in the Canadian share of FDI in U.S. petroleum, from 15 percent in 1980 to 4 percent in 1987. Deregulation of the Canadian energy industry in the mid-1980's and government policies encouraging indigenous oil and gas investment in the earlier years of the decade increased the relative attractiveness of Canadian oil and gas investment for Canadian-based companies. The decline in European investors' share of FDI in U.S. petroleum, from 91 percent in 1988 to 88 percent in 1989, was concentrated among United Kingdom (U.K.) investors. The U.K.'s FDI position fell by $2.0 billion, but for the rest of Europe the FDI position rose by $1.3 billion. A substantial negative value of $1.5 billion for retained earnings, traceable to U.K. interests, accounted for most of the decline in the U.K. FDI position.[15]

Although movements in FDI often reflect foreign investor acquisitions of ownership in U.S. companies and assets, the actual changes in FDI should also be viewed in terms of their

Table 2. Geographic Sources of Foreign Direct Investment in U.S. Petroleum, 1985-1989

Source	1985	1986	1987	1988	1989	1985	1986	1987	1988	1989
	(billion dollars)					(percent of total)				
All Countries	28,270	29,094	35,598	34,704	35,089	100.0	100.0	100.0	100.0	100.0
Canada	1,589	1,432	1,426	1,614	1,679	5.6	4.9	4.0	4.7	4.8
Europe[a]	25,636	26,139	32,957	31,536	30,866	90.7	89.8	92.6	90.9	88.0
Netherlands	11,481	(b)	(b)	(b)	10,660	40.6	(b)	(b)	(b)	30.4
United Kingdom	12,155	11,758	(b)	18,779	16,811	43.0	40.4	(b)	54.1	47.9
Japan	31	-34	-2	-79	68	0.1	0.1	(c)	-0.2	0.2
Latin America[d]	577	889	748	898	1,473	2.0	3.1	2.1	2.6	4.2
Other	437	668	469	735	1,003	1.5	2.3	1.3	2.1	2.9
Memorandum:										
OPEC[e]	17	(b)	(b)	746	1,202	0.1	(b)	(b)	2.1	3.4

[a]Europe consists of Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Sweden, Switzerland, and the United Kingdom.

[b]Data withheld by the U.S. Department of Commerce to prevent disclosure.

[c]Less than 0.05 percent.

[d]Latin America consists of Western Hemisphere nations excluding the United States, Puerto Rico, the U.S. Virgin Islands, and Canada.

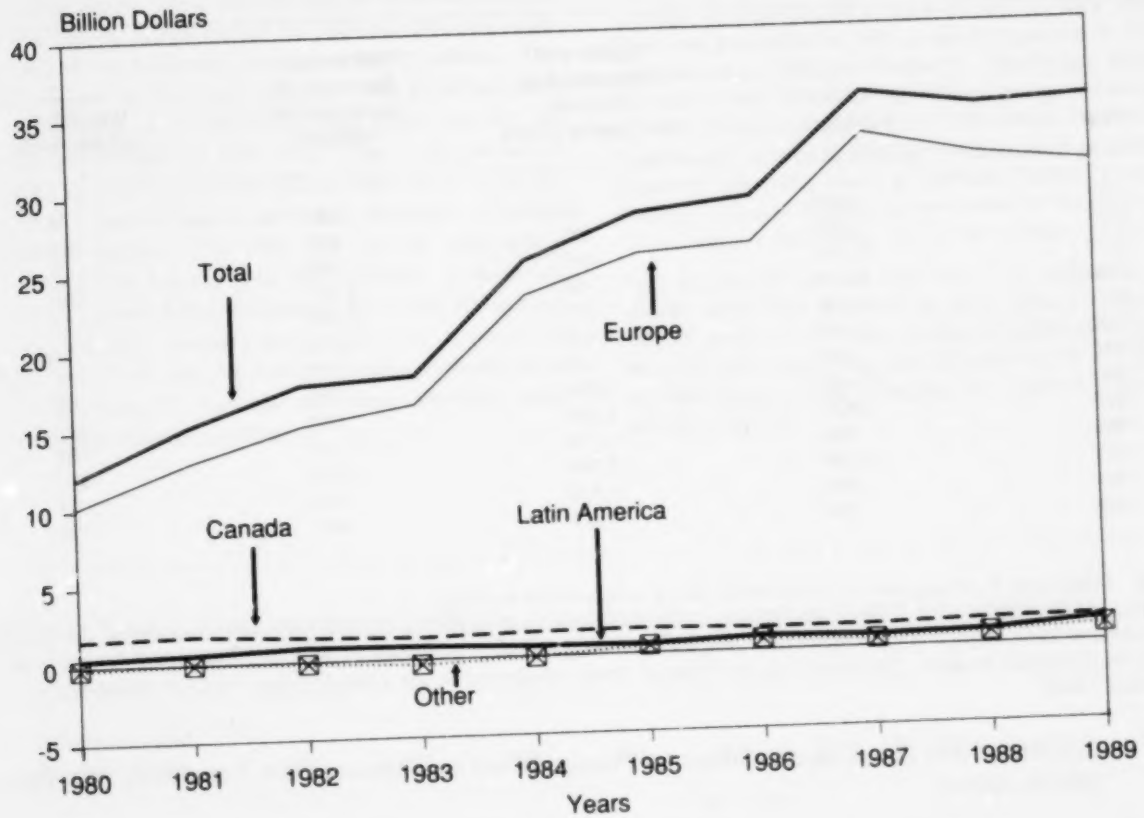
[e]The OPEC countries are Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, Venezuela, and the United Arab Emirates.

Note: Total may not equal sum of components due to independent rounding.

Source: U.S Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990).

[15]U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990), p. 42.

Figure 3. Sources of Foreign Direct Investment in U.S. Petroleum by Geographic Area, 1980-1989



Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990).

components. Of particular interest is the role of reinvested earnings. Changes in FDI position are composed of reinvested earnings and net capital flows, and, to a minor extent, valuation adjustments (Table 3).[16] Net capital flows in 1988 were strongly affected by BP America's repayment on a note to its parent of $2.4 billion. Excluding this value indicates that net capital flows increased modestly between 1988 and 1989, from $0.9 billion to $1.0 billion. However, reinvested earnings declined by nearly $1.2 billion, to a negative $461 million in 1989. Retained earnings can fall either because earnings[17] declined, as occurred in 1986, or because earnings distributed to foreign owners as dividends increased, as occurred in 1988. Earnings from FDI in petroleum were not reported for 1989 (Table 4). However,

[16]Equity and intercompany account capital flows measure the investment and lending from the foreign investor to its U.S. affiliate on a net basis. Since this measure is on a net basis, it can be negative if, as occurred in 1980, 1983, and 1988, repayments by U.S. affiliates to their foreign parents exceed the investment by the parents in the affiliates. Reinvested earnings are earnings of the U.S. affiliate due the foreign investor less dividends declared. Valuation adjustments primarily reflect the difference between transaction values and values on U.S. affiliates' books.

[17]For FDI measurement purposes, earnings are defined as the foreign parent's share in the net income of the U.S. affiliate, after provision for U.S. income taxes.

Table 3. Additions to Foreign Direct Investment in U.S. Petroleum, 1977-1989
(Million Dollars)

Year	Total Additions	Equity and Intercompany Account Net Capital Flows	Reinvested Earnings of Incorporated Affiliates	Valuation Adjustments
1977	653	52	601	0
1978	1,189	303	940	-54
1979	2,144	499	1,645	0
1980	2,294	-59	2,161	192
1981	3,046	919	2,246	-119
1982	2,414	1,409	1,002	3
1983	549	-57	565	40
1984	7,191	5,581	1,628	-19
1985	2,870	2,581	565	-276
1986	824	1,776	-1,114	162
1987	6,504	5,304	1,315	-115
1988	-894	-1,559	696	-31
1989	384	1,029	-461	-184

Note: Totals may not equal sum of components due to independent rounding.
Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1982, October 1984, August 1986, August 1987, August 1988, August 1989, and August 1990). U.S. Department of Commerce, Bureau of Economic Analysis, *Selected Data on Foreign Direct Investment in the United States, 1950-79* (Washington, DC, December 1984).

Table 4. Distributed and Reinvested Earnings for Foreign Direct Investment in U.S. Petroleum, 1981-1989
(Million Dollars)

Year	Earnings	Distributed	Reinvested
1981	3,118	872	2,246
1982	2,241	1,239	1,002
1983	1,593	1,028	565
1984	2,402	774	1,628
1985	1,668	1,103	565
1986	-209	904	-1,114
1987	1,709	394	1,315
1988	2,155	1,459	696
1989	(a)	(a)	-461

[a]Data withheld by the U.S. Department of Commerce to prevent disclosure.
Note: Totals may not equal sum of components due to independent rounding.
Source: 1989: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990). 1987 and 1988: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1989). 1986: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1988). 1985: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1987). 1984: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1986). All 1983 data and reinvested earnings for 1981 and 1982: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1985). Earnings for 1981 and 1982: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, October 1984); distributed earnings for 1981 and 1982 were computed as the difference between earnings and reinvested earnings.

there is a strong statistical relationship between petroleum FDI-related earnings and petroleum FDI-related income.[18] Based on income, which was reported for 1989, earnings can be estimated as $2,060 million for 1989 which in turn yields an estimate of distributed earnings of $2,521 million. The 1989 estimate of distributed earnings is over $1 billion above the 1988 value of distributed earnings which was over $1 billion greater than the 1987 value. That is, the decline in retained earnings in petroleum FDI in 1988 and 1989 was the result of a sharp increase in dividends distributed to foreign ownership interests. In 1988, this increase was largely traceable to BP America's $1 billion increase in dividends paid to its parent British Petroleum, who owns 100 percent of BP America's common stock. However, it cannot be determined if this was the source of increased dividends in 1989, because BP America no longer publishes their consolidated financial statement.

Foreign Direct Investment and Rates of Return in U.S. Coal

Foreign affiliates posted a slight increase in their share of U.S. coal production in 1989, from 20.6 percent in 1988 to 21.2 percent in 1989 (see Chapter 3). The foreign affiliates' increase in share was the result of acquisitions. Acquisitions included Costain Group's gain of 100-percent ownership of Pyro Energy, Newmont Mining's acquisition of an additional 5-percent ownership share of Peabody Holding Company, Peabody's gain of 100-percent ownership of North Antelope Coal Company, and Ashland Coal's acquisition of Coal Mac.

Additions to FDI in U.S. coal were $158 million in 1989, slightly down from additions in 1988 (Table 5). However, the FDI position in U.S. coal rose to $3.6 billion, surpassing the 1986 peak value. The rate of return to FDI in U.S. coal in 1989, though down a fraction of a percent from 1988, remained positive.

Table 5. Foreign Direct Investment, Additions to Foreign Direct Investment, and Rate of Return on Foreign Direct Investment in U.S. Coal, 1981-1989

Investment and Rate of Return	1981	1982	1983	1984	1985	1986	1987	1988	1989
	(million dollars)								
FDI in U.S. Coal	1,135	1,208	1,281	2,637	2,871	3,480	3,223	3,459	3,617
Additions to FDI in U.S. Coal	657	73	73	1,356	234	609	-257	236	158
	(percent)								
Rate of Return on FDI in U.S. Coal	1.9	-3.0	(a)	-7.0	-12.0	-7.1	-0.2	2.0	1.5

[a]Less than 0.05 percent.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990).

[18]The maximum likelihood estimate, with first-order autoregressive error terms, of the relationship between petroleum FDI earnings (E), petroleum FDI income (I), and trend (T) for annual observations for 1981 through 1988 is (t-ratios in parentheses) $E = 10{,}150 + 0.962\ I - 123\ T$, where (9.056) (26.591) (9.328)
$T = 81, 82, \ldots, 88$.

3. The Role of Foreign-Affiliated Companies in U.S. Energy Operations

Oil and Gas Reserves and Production

In 1989, results for U.S. oil and gas exploration and development activities were somewhat mixed. Although U.S. oil prices at the wellhead rose by over $3 per barrel between 1988 and 1989, they remained well below the pre-1986 levels, and were insufficient to stimulate oil drilling activity. Oil well completions were down by nearly 3,000 wells to a 16-year low.[19] Overall, U.S. well completions fell by over 3,500 to the lowest level since 1973. However, the outlook for natural gas continued to improve and benefit from recent deregulation of natural gas markets. Natural gas well completions rose by over 1,000, or by 13 percent, between 1988 and 1989. Increased natural gas demand together with more optimistic expectations for future demand stemming from environmental considerations appeared to more than offset the effects of flat year-to-year prices.

Total U.S. crude oil and natural gas liquids (NGLs) reserves fell by 2 percent. Reserve additions were down 29 percent and equaled only 76 percent of production in 1989 (Table 6). U.S. oil reserves of foreign affiliates declined by less than 1 percent during the same year. Thus, the foreign-affiliated share of U.S. oil reserves rose slightly, from 18.4 percent to 18.6 percent. BP America, in 1989, reported the largest decline in U.S. oil reserves among the foreign affiliates, 99 million barrels, even though the company replaced nearly two thirds of their U.S. oil production through reserve additions. This decline was nearly offset by Du Pont's U.S. oil reserve additions which exceeded their production by 87 million barrels. Most of the reserve additions came from revisions and discoveries, and 21 million barrels came from purchases of proven reserves.

For the foreign affiliates, U.S. oil production declined at a slightly steeper rate than for the industry overall, 6.6 percent versus 6.1 percent (Table 7). BP America accounted for over two thirds of the decline, which the company attributed largely to natural decline rates in the Prudhoe Bay field in Alaska. The foreign affiliates' share of U.S. oil production declined by a fraction of a percent, to 16.8 percent in 1989.

By contrast, in 1989, total U.S. natural gas reserve additions nearly replaced production, which rose by 1 percent (Table 6). The foreign affiliates replaced a lesser 69 percent of their natural gas production through reserve additions in 1989. As a result, the foreign affiliates' share of U.S. natural gas reserves declined slightly, from 9.3 percent to 9.1 percent.

However, the foreign affiliates' natural gas production rose at a 2-percent rate between 1988 and 1989 compared with a 1-percent increase for U.S. industry (Table 7). Production increases of over 30 billion cubic feet were reported by Du Pont and American Petrofina. Du Pont's increased production benefited from a 14-percent growth in their natural gas reserves between 1987 and 1989, and American Petrofina's increase was largely the result of a sizeable purchase of Tenneco's onshore oil and gas properties in late 1988. The foreign affiliates' share of natural gas production rose by a fraction of a percent, to 8.3 percent.

The aggregate foreign reserves of major U.S. energy companies were twice as great as the U.S. oil reserve holdings of foreign-affiliated companies and accounted for 1.5 percent of the total free-world reserves outside of the United States (Table 8). Total foreign oil reserve holdings of major energy companies of 13.3 billion barrels in 1989 were essentially unchanged from 1988. European holdings showed the largest increase due primarily to upward revisions of previous years' estimates and increased reserve additions from improved recovery efforts. The largest decrease in reserves occurred in the Other Eastern Hemisphere region and was the result of the absence of upward revisions in 1989 compared with positive net revisions of 174 million barrels in 1988.

Refining and Gasoline Marketing

The sustained profitability of downstream operations in the United States and a heightened interest by some OPEC members to vertically integrate their operations served to increase investors' interest in U.S. downstream petroleum in 1989. The largest FDI-related transaction in U.S. energy in

[19]Energy Information Administration, *Monthly Energy Review*, June 1990, DOE/EIA-0035(90/06) (Washington, DC, September 1990).

Table 6. Domestic Oil and Dry Natural Gas Proved Reserves and Production for Foreign-Affiliated U.S. Companies, 1988 and 1989

Fuel Type	Foreign-Affiliated Companies[a]	U.S. Total	Foreign-Affiliated Share of U.S. Total
			(percent)
Crude Oil and Natural Gas Liquids[b]			
Proved Reserves			
December 31, 1987	6,457	35,403	18.2
December 31, 1988	6,436	35,063	18.4
1988 Production	610	3,565	17.1
1988 Gross Reserve Additions	589	3,225	18.3
1988 Ratio of Gross Reserve Additions to Production	0.97	0.90	NM
Proved Reserves			
December 31, 1988	6,436	35,063	18.4
December 31, 1989	6,378	34,270	18.6
1989 Production	564	3,317	17.0
1989 Gross Reserve Additions	506	2,524	20.0
1989 Ratio of Gross Reserve Additions to Production	0.90	0.76	NM
Dry Natural Gas[c]			
Proved Reserves			
December 31, 1987	14,640	162,611	9.0
December 31, 1988	15,716	168,024	9.4
1988 Production	1,384	16,670	8.3
1988 Gross Reserve Additions	2,460	22,083	11.1
1988 Ratio of Gross Reserve Additions to Production	1.78	1.33	NM
Proved Reserves			
December 31, 1988	15,685	168,024	9.3
December 31, 1989	15,245	167,116	9.1
1989 Production	1,419	16,983	8.4
1989 Gross Reserve Additions	979	16,075	6.1
1989 Ratio of Gross Reserve Additions to Production	0.69	0.95	NM

[a]Reserves and production are on a net ownership interest basis. The first set of reserves and production data, under each fuel type, is for companies identified as foreign affiliated and reporting oil and/or natural gas production during 1988. The second set is for companies identified as foreign affiliated during 1989 and reporting oil and/or natural gas production during 1989.

[b]Million 42-gallon U.S. barrels.

[c]Billions of cubic feet, 14.73 psia, 60 degrees Fahrenheit. Natural gas reserves include Alaskan North Slope reserve writedowns beginning on December 31, 1987.

NM = Not meaningful

Source: Foreign-affiliated data: Companies' Form 10-K filed with the U.S. Securities and Exchange Commission and Annual Reports to Shareholders. U.S. totals: Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1989 Annual Report*, DOE/EIA-0216(89) (Washington, DC, October 1990).

Table 7. Net Production of Petroleum and Dry Natural Gas in the United States by Foreign-Affiliated U.S. Companies, 1987-1989

Company	Crude Oil and Natural Gas Liquids[a]			Dry Natural Gas[a]		
	1987	1988	1989	1987	1988	1989
	(thousand barrels per day)			(billion cubic feet)		
BP America	846.6	857.9	784.7	[b]71.7	[b]69.2	[b]89.1
Shell Oil Company	558.9	527.9	493.2	656.0	581.0	532.0
Du Pont	106.8	106.6	112.3	219.0	238.0	274.0
Santa Fe Energy Resources	NF	53.3	50.7	NF	33.8	29.8
American Petrofina	15.9	17.3	22.4	28.5	41.8	72.1
BHP Petroleum (Americas)	13.2	15.9	12.9	50.4	55.7	49.7
Total Minatome Corporation	5.7	11.5	9.7	17.8	41.8	33.8
Anadarko Petroleum	9.5	9.5	9.7	94.4	128.5	141.5
Pauley Petroleum	2.9	9.0	9.1	0.5	13.7	15.6
Adobe Resources Corporation	5.6	5.0	4.6	17.8	24.2	22.1
Elf Aquitaine Incorporated	4.8	4.7	4.4	22.3	28.2	30.0
Presidio Oil Co.	NF	1.5	4.4	NF	8.7	17.5
Bridge Oil (USA)	0.5	0.9	3.7	0.8	2.0	14.0
Home Petroleum	2.7	4.3	(c)	9.4	10.9	(c)
Coho Resources	0.9	2.4	2.6	(d)	0.1	(d)
Sunshine Mining Company	2.9	2.6	2.3	12.5	11.9	12.9
Wintershall Corporation	2.8	2.4	2.3	11.3	17.3	17.6
Placer Dome Incorporated	2.3	2.4	2.2	8.7	7.7	8.6
Unimar Company	3.0	2.7	2.0	9.7	8.6	9.8
Triton Energy Corporation	2.4	2.3	1.8	7.7	8.1	6.5
Deminex U.S. Oil Company	1.6	1.8	1.7	2.9	2.7	2.8
Norcen Energy Resources	1.3	1.4	1.5	4.6	7.5	8.4
Avalon Corp.	0.8	1.1	1.0	0.3	0.4	0.5
Gulf Resources & Chemicals	1.0	0.9	1.0	6.9	5.4	4.3
Total Petroleum North America	6.5	5.5	0.0	10.6	11.3	0.0
TransCanada Pipelines, Ltd.	1.6	0.6	0.0	5.7	3.0	0.0
Newmont Mining	3.9	0.0	0.0	15.1	0.0	0.0
Pan Canadian Petroleum, Ltd.	1.8	0.0	0.0	5.0	0.0	0.0
Canterra Energy, Ltd.	1.7	0.0	0.0	4.1	0.0	0.0
Chieftain Development Company, Ltd.	1.3	0.0	0.0	0.4	0.0	0.0
Other Companies	5.4	4.7	5.7	23.9	22.7	26.0
Total Foreign Affiliated	1,614.3	1,656.1	1,545.9	1,318.0	1,384.2	1,418.6
Total United States	10,008.0	9,818.0	9,219.0	16,536.0	16,992.0	17,115.0
Percent Foreign-Affiliated	16.1	16.9	16.8	8.0	8.1	8.3

[a]Unless otherwise noted, company production is net ownership interest production.
[b]Reported sales.
[c]Acquired by Presidio Oil Company in 1989
[d]Less than 0.05.
NF = Not foreign affiliated in years shown.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Company data: Form 10-K reports to the U.S. Securities and Exchange Commission and Annual Reports to Shareholders. Totals for the United States. Energy Information Administration, *Monthly Energy Review*, June 1990, DOE/EIA-0035(90/06) (Washington, DC, September 1990).

Table 8. Foreign Crude Oil and Natural Gas Liquids Reserve Interest for FRS Companies, 1989 and Percent Change from 1988

Crude Oil and NGL Reserve Interest	Total Foreign	Canada	OECD Europe	Africa	Middle East	Other Eastern Hemisphere	Other Western Hemisphere
	(million barrels)						
1989							
Total Crude and NGL Reserve Interest[a]	13,264	2,714	3,961	1,597	1,847	2,317	829
	(percent)						
Percent Distribution by Geographic Region, 1989							
Total Crude and NGL Reserve Interest	100.0	20.5	29.9	12.0	13.9	17.5	6.3
Percent Change from 1988							
Total Crude and NGL Reserve Interest	-0.2	-1.3	3.8	0.4	-2.0	-4.0	-0.6
Share of Market Economies, 1989[b]							
Total Crude and NGL Reserve Interest	1.5	32.7	21.5	2.7	0.3	10.2	4.5

[a]The components of total foreign crude oil and natural gas liquids reserve interest are net ownership interest reserves (88.5 percent) and "Other Access" reserves (11.5 percent). "Other Access" reserves include proportional interest in investee reserves and foreign access reserves.

[b]Excludes U.S.S.R., China, and Eastern Europe.

Note: Totals may not equal sum of components due to independent rounding. While five of the FRS companies are foreign-affiliated, their foreign reserves are a small portion of the FRS total.

Sources: FRS companies: Energy Information Administration, Form EIA-28 (Financial Reporting System). Market economies: British Petroleum Company, *BP Statistical Review of World Energy* (London, June 1990).

1989 was the establishment of Uno-Ven, a 50-50 partnership between Petroleos de Venezuela (PDVSA), the state energy company of Venezuela, and Unocal Corporation, a major U.S. petroleum company. Unocal transferred their Illinois refinery (147,000 barrels per day capacity), 12 product terminals, 4 lubricant terminals, a jet fuel facility, and 131 Unocal service stations to the partnership in December 1989. Uno-Ven's retail outlets, including jobber-supplied outlets, totaled 3,550 service stations and 96 truckstops. This transaction was the most recent in a series of transactions in which PDVSA has established a significant presence in U.S. downstream petroleum operations. Previous transactions included a 50-percent interest in Citgo Petroleum, which is a joint venture with Southland Corporation, and 100-percent ownership of Champlin Refining. In January 1990, PDVSA closed a deal which gave it 100-percent ownership of Citgo Petroleum. U.S. refining capacity associated with PDVSA interests totaled 559 thousand barrels per day in 1989, 3.6 percent of the U.S. total (Table 9).

The second largest FDI-related transaction in 1989 was Broken Hill Proprietary Company's acquisition of Pacific Resources for $378 million. Broken Hill Proprietary (BHP) is Australia's largest industrial company and has extensive worldwide interests in oil, gas, coal, and other minerals operations. During the 1980's, BHP gained a significant presence in U.S. oil and gas production and coal production through a number of acquisitions (Tables 7 and 12). In acquiring Pacific Resources, BHP gained the Hawaiian Independent Refinery (79,500 thousand barrels per day capacity), thereby extending their petroleum operations into downstream activities.

Table 9. U.S. Refinery Operations of Foreign-Affiliated U.S. Companies, 1985-1989

Company	Number of Refineries[a]					Total Crude Distillation Capacity[a]				
	1985	1986	1987	1988	1989	1985	1986	1987	1988	1989
						(thousand barrels per day)				
Shell Oil Company	7	7	7	7	7	1,020	1,046	1,066	1,083	1,079
BP America	4	4	4	5	5	664	668	668	757	757
Star Enterprise	NF	NF	NF	3	3	NF	NF	NF	615	615
Du Pont	6	6	6	6	5	400	393	394	397	407
Citgo Petroleum	NF	1	1	1	1	NF	320	320	305	282
Total Petroleum, Ltd.	3	3	4	4	4	152	154	191	184	190
Salomon Inc./ Hill Petroleum	1	3	3	NF	NF	55	154	156	NF	NF
American Petrofina	2	2	2	2	2	150	145	145	165	165
Uno-Ven	NF	NF	NF	NF	1	NF	NF	NF	NF	147
Champlin Refining Co.	NF	NF	1	1	1	NF	NF	155	130	130
Clark Oil & Refining	NF	NF	NF	2	2	NF	NF	NF	128	122
Pacific Resources	NF	NF	NF	NF	1	NF	NF	NF	NF	79
American Ultramar Ltd.	1	1	(b)	1	1	17	17	(b)	65	69
Pacific Refining Co.	NF	NF	NF	1	1	NF	NF	NF	55	55
Sargent Holdings, Ltd.	NF	1	1	1	1	NF	33	35	35	44
Pauley Petroleum	NF	NF	1	2	1	NF	NF	23	52	30
Atlantic Petroleum	1	1	1	(c)	0	125	125	125	(c)	0
Fletcher Oil & Refining	1	1	1	(d)	0	30	30	30	(d)	0
Asamera Inc.	1	1	(e)	0	0	26	28	(e)	0	0
E-Z Serve Inc.	NF	NF	1	(f)	0	NF	NF	20	(f)	0
MacMillan Ring-Free Oil Company	2	2	1	(g)	0	17	20	14	(g)	0
Total Foreign Affiliated	29	33	34	36	36	2,656	3,133	3,342	3,971	4,171
Total United States	216	219	213	204	205	15,459	15,566	15,915	15,655	15,572
Percent Foreign	13.4	15.1	16.0	17.6	19.5	17.2	20.1	21.0	25.4	26.8

[a]Refineries operable as of December 31st in each year.
[b]Hanford, CA, refinery shutdown in 1987. Acquired Union Pacific's Wilmington, CA, refinery in 1988.
[c]Sold to Sun Co. in 1988
[d]Sold to Pauley Petroleum in 1988.
[e]Sold to Total Petroleum in 1987.
[f]Shut down.
[g]Sold to Chemoil Corp. in 1988.
NF = No foreign affiliation during this period.

Sources: 1985: Energy Information Administration, *Petroleum Supply Annual 1985*, Volume 1, DOE/EIA-0340(85)/1 (Washington, DC, May 1986). 1986: Energy Information Administration, *Petroleum Supply Annual 1986*, DOE/EIA-0340(86)/1 (Washington, DC, May 1987). 1987: Energy Information Administration, *Petroleum Supply Annual 1987*, Volume 1, DOE/EIA-0340(87)/1 (Washington, DC, May 1988). 1988: Energy Information Administration, *Petroleum Supply Annual 1988*, Volume 1, DOE/EIA-0340(88)/1 (Washington, DC, May 1989). 1989: Energy Information Administration, *Petroleum Supply Annual 1989*, Volume 1, DOE/EIA-0340(89)/1 (Washington, DC, May 1990).

Two small refineries were shut down by foreign-affiliated companies in 1989. Pauley Petroleum shut down its Newhall, California refinery (22,500 barrels per day capacity) and Du Pont's Conoco unit shut down its Egan, Louisiana refinery (2,800 barrels per day capacity). On balance, foreign affiliates' share of U.S. refinery capacity rose from 25.4 percent in 1988 to 26.8 percent in 1989.

The foreign affiliates' role in U.S. gasoline marketing also grew in 1989. The number of branded retail outlets associated with foreign-affiliated companies increased by nearly 14,000 (Table 10).[20] The increase came from the Uno-Ven transaction (3,550 outlets) and the commencement of the operations of Star Enterprise in 1989 (10,700 outlets), a joint venture between Saudi Arabia's ARAMCO and Texaco established in 1988. The near doubling of the number of outlets associated with foreign-affiliated companies between 1984 and 1989 paralleled a similar growth in foreign affiliates' U.S. refinery capacity over the same period.

The FRS companies, which account for nearly all of U.S.-based companies' activity in foreign refining, showed a 2-percent decrease in their foreign refining capacity in 1989 (Table 11). Refining facilities gained by Exxon's acquisition of Texaco Canada and Coastal Corporation's purchase of the shutdown Aruba refinery were more than offset by Texaco's sale of their Canadian operations and transfer of a refinery to a European joint venture, and Mobil's divestiture of their South African businesses. On balance, the FRS companies' share of foreign refinery capacity slipped a fraction of a percent in 1989.

Coal Production

U.S. coal producers experienced mixed financial results in 1989. Although U.S. coal production grew by over 3 percent for the third consecutive year, U.S. consumption of coal rose by only 1 percent, putting downward pressures on coal prices. The reduced growth in coal consumption was traceable to lessened growth in electricity generation and a rebound in hydroelectric generating capability in 1989. A number of coal producers were adversely affected by unauthorized work stoppages in 1989. Offsetting these developments were a continued growth in productivity stemming from increased Western coal production and installation of long-wall mining equipment. Coal exports were a source of increased sales volumes, growing 6 percent between 1988 and 1989. On balance, coal producers' net income for 1989 was about even with 1988 following a substantial rise in 1988.[21]

Foreign investor interest in U.S. coal operations in 1989 increased the foreign-affiliated companies' share of U.S. coal production. In 1989, an additional 9 million tons of the production traceable to foreign-affiliated companies were due to Newmont Mining's additional 5 percent equity interest in Peabody Coal, Peabody's acquisition of North Antelope Coal Company, and Ashland Coal's acquisition of Coal Mac. Apart from acquisitions, U.S. coal production of foreign affiliates increased 1 percent which was less than the 3-percent increase for U.S. industry. In total, foreign affiliates accounted for 207 million tons of U.S. coal production (Table 12) and their share increased slightly from 20.6 percent in 1988 to 21.2 percent in 1989 (Figure 4).

Uranium Exploration and Development

Overall expenditures for U.S. uranium exploration and development in 1989 declined by 26 percent from the prior year's level, to $14.8 million, the lowest level since at least 1976 (Table 13). Expenditures by foreign companies declined at a steeper 31-percent rate, to $6.1 billion. Nevertheless, foreign-affiliated companies' share of expenditures remained above the 40 percent level, evident since 1986.

[20]The outlet data in Table 10 should be viewed with some caution since the reported number of company outlets includes jobber-supplied outlets. Jobbers can have supply arrangements with more than one refiner and, as a consequence, the outlet data could contain multiple counting of some outlets.

[21]"Improved Energy Profits Offset by Refining Results in 1989," *Monthly Energy Review*, December 1989, DOE/EIA-0035(90/12) (Washington, DC, March 1990), pp. 1-6.

Table 10. Branded Retail Outlets and Total Gasoline Supplied by Foreign-Affiliated U.S. Companies, 1985-1989

Company	1985	1986	1987	1988	1989
	Total Branded Retail Outlets				
Star Enterprise	(a)	(a)	(a)	(a)	10,700
Shell Oil Company	11,129	11,133	10,947	10,847	9,763
Citgo Petroleum[b]	NF	7,296	7,458	7,697	8,463
BP America	8,200	8,100	7,550	7,700	7,560
Du Pont	6,276	6,860	5,918	4,843	4,915
Uno-Ven	(a)	(a)	(a)	(a)	3,550
American Petrofina	4,249	4,209	4,117	3,458	3,177
Total Petroleum North America	1,942	1,915	1,968	2,564	2,719
Clark Oil and Refining	NF	NF	NF	946	944
Ultramar	378	136	300	350	350
Hawaiian Independent Refinery	NF	NF	NF	NF	25
Atlantic Petroleum	547	941	940	0	0
Total for Foreign-Affiliated Companies	32,721	40,590	39,198	38,405	52,166
U.S. Total[c]	124,600	120,150	115,870	112,000	111,657
Foreign-Affiliated Companies as Percent of U.S. Total	26.3	33.8	33.8	34.3	46.7
	Total Gasoline Supplied[d] (thousand barrels per day)				
Total for Foreign-Affiliated Companies[e]	1,285	1,565	1,586	1,673	2,051
U.S. Total[f]	6,831	7,034	7,206	7,336	7,328
Foreign-Affiliated Companies as Percent of U.S. Total	18.8	22.2	22.0	22.8	28.0

[a]Not in existence during this period. Star Enterprise operations began on January 1, 1989.
[b]Jobber-supplied outlets.
[c]Service station establishments with 50 percent or more of their dollar volume from petroleum product sales.
[d]Gasoline Supplied refers to average daily gasoline shipments.
[e]Disaggregated company numbers are considered proprietary by the Energy Information Administration.
[f]Total gasoline supplied.
NF = No foreign affiliation during this period.
Sources: Company station counts: *National Petroleum News Factbook*, 1986-1990, and Annual Reports to Shareholders, except for Ultramar (1986), for which data were provided by the company. U.S. total outlets: 1985-1988: U.S. Department of Commerce, *Franchising in the Economy, 1987-1989* (Washington, DC, February 1989). 1989: National Petroleum News, *1990 Fact Book*. Company gasoline volumes: Energy Information Administration, Form EIA-782c. Total gasoline supplied: Energy Information Administration, *Monthly Energy Review*, June 1990, DOE/EIA-0035(90/06) (Washington, DC, September 1990).

Table 11. Foreign Refinery Output and Capacity Statistics for FRS Companies and Foreign Industry, 1987-1989

Refinery Statistics	FRS Companies[a]	Foreign Industry[a]	FRS as Percent of Foreign Industry
	(thousand barrels per day)		
1987			
Refinery Capacity[b]	4,625	39,441	11.7
Refinery Output[c]	4,348	32,740	13.3
Percent Gasoline	28.5	20.8	18.2
Percent Distillate	38.6	37.0	13.9
Percent Other	32.8	42.2	10.3
1988			
Refinery Capacity[b]	4,608	39,134	11.8
Refinery Output[c]	4,691	33,971	13.8
Percent Gasoline	28.7	20.9	19.0
Percent Distillate	39.0	36.1	14.9
Percent Other	32.2	43.0	10.3
1989			
Refinery Capacity[b,d]	4,514	39,852	11.3

[a]Foreign FRS and foreign industry data exclude operations in Puerto Rico and the U.S. Virgin Islands, as well as China and the Soviet Bloc.

[b]Year-end crude distillation capacity in thousand barrels per calendar day.

[c]Total output of refined products, for FRS companies, is total output at own refineries and refineries of others for own account.

[d]Foreign Industry output data for 1989 are not available.

Note: Totals may not equal sum of components due to independent rounding.

Source: FRS companies: Energy Information Administration, *Performance Profiles of Major Energy Producers 1988*, DOE/EIA-0206(88) (Washington, DC, January 1990) and Form EIA-28. Foreign Industry: Energy Information Administration, *International Energy Annual 1988*, DOE/EIA-0219(88) (Washington, DC, November 1989) and Energy Information Administration, *International Energy Annual 1989*, DOE/EIA-0219(89) (Washington, DC, November 1990).

Table 12. Bituminous Coal and Lignite Production and Source of Ownership of Foreign-Affiliated Coal Companies in the United States, 1986-1989

Controlling Company/ Foreign-Ownership Interest	Coal Production[a]			
	1986	1987	1988	1989
	(thousand short tons)			
Consolidation Coal Co. (Du Pont)				
JES Holding, Inc.	41,529	52,500	54,900	53,500
Peabody Holding Co. (Newmont Mining)[b]				
Consolidated Gold Fields	NF	39,476	40,726	47,700
Shell Oil Co.				
Royal Dutch/Shell	8,738	15,445	24,360	25,500
Utah Minerals International, Inc.				
Broken Hill Proprietary Co.	12,651	12,996	13,360	15,200
Old Ben Coal Co. (BP America)				
British Petroleum	15,220	13,254	12,986	12,200
Westmoreland Coal Co.				
Veba Kohle International	9,840	9,654	10,000	10,800
Ashland Coal Co.				
Saarbergwerke AG/Carborex	3,269	3,950	4,800	7,000
Pyro Mining Co.[c]				
Costain Group	5,258	6,200	6,677	5,885
Cannelton Industries, Inc.				
Algoma Steel, Ltd.	3,411	4,054	4,054	4,536
M.A. Hanna Co.				
Norcen Energy Resources, Ltd.	3,428	3,500	3,955	4,200
Andelex Resources, Inc.				
Andelex Resources, Inc.	2,602	2,500	3,275	3,900
Pickard Mather & Co.				
Steel Company of Canada	3,555	4,014	3,130	3,130
Great Western Coal, Inc.				
Great Western Resources, Inc.	2,597	2,564	2,911	3,374
Agip Coal, Inc.				
Ente Nazionale Idrocarburi	0	0	2,652	3,119
Inspiration Coal, Inc.				
Hudson Bay Mining & Smelting Co.	2,859	2,785	2,579	1,993
Santa Fe Energy Resources				
Olympia and York, Ltd.	NF	NF	2,107	2,342
Gulf Resources and Chemical				
HCI Holdings, Ltd./Private Investor	2,139	1,938	1,426	1,709
Carter-Roag Coal Co.				
Marquard and Bahls Coal Co.	267	387	588	540
Total American Mining				
Total Compagnie Francaise de Petroles	597	764	585	42
Tanoma Coal Co., N.V.				
Pohang Steel America, Inc.	560	506	NF	NF
Avery Coal Co.				
Trafalgar Industries	267	275	283	283
Coal Corp. of American (Shaker Division)				
Campbell Resources	250	248	60	60

See footnotes at end of table.

Table 12. Bituminous Coal and Lignite Production and Source of Ownership of Foreign-Affiliated Coal Companies in the United States, 1986-1989 (Continued)

Controlling Company/ Foreign-Ownership Interest	Coal Production[a]			
	1986	1987	1988	1989
	(thousand short tons)			
A.T. Massey Coal Co.[e]				
Royal Dutch/Shell Group	23,229	0	0	0
Enoxy Coal, Inc.[e]				
Ente Nazionale Idrocarburi	3,377	3,108	0	0
Canterra Coal[f]				
Polysar Energy & Chemical	526	853	0	0
Total Foreign Affiliated	146,169	180,971	195,414	207,013
Total United States	886,023	915,202	946,710	976,274
Percent Foreign Affiliated	16.5	19.8	20.6	21.2

[a]Coal production refers to lignite and bituminous coal production only.

[b]Only Newmont Mining's ownership share of Peabody's production is shown, which was 49.97 percent in 1987-1988 and 54.97 percent in 1989.

[c]Joint Venture with Pyro Energy Corporation.

[d]Joint Venture with Fluor Corporation. The joint venture was dissolved in 1987.

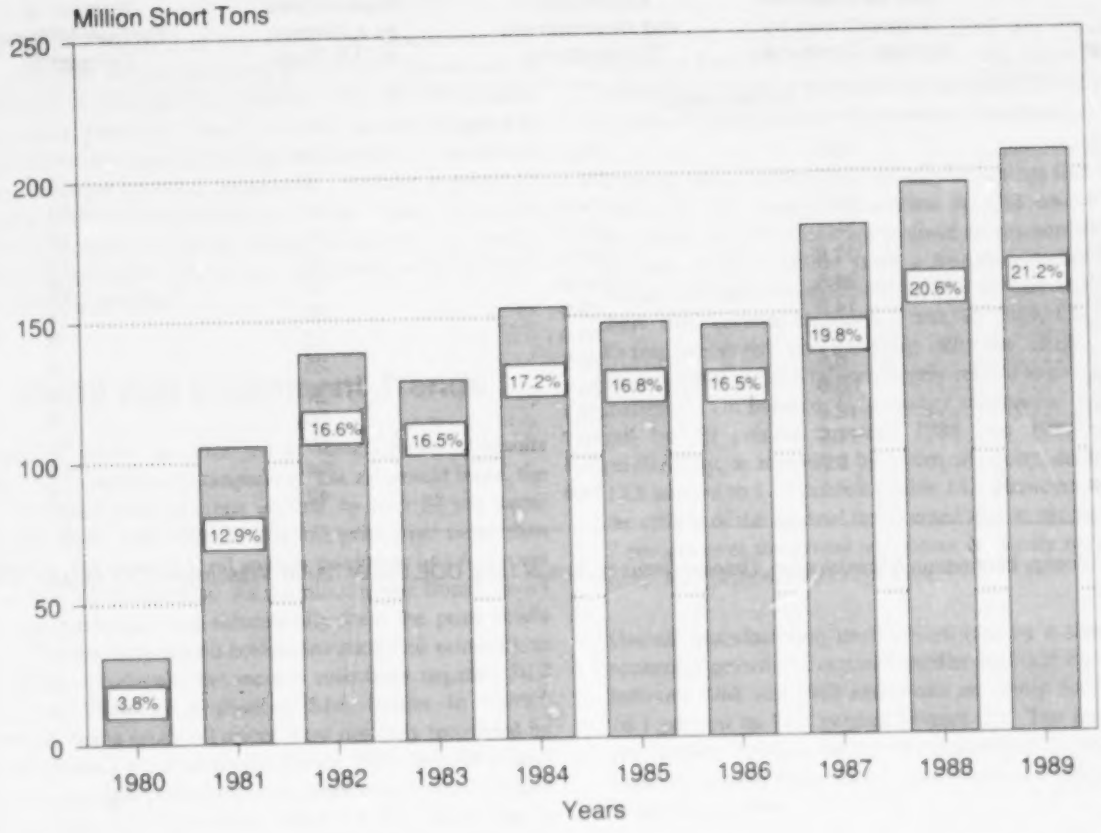
[e]Joint venture with Occidental Petroleum Corporation. The joint venture was dissolved in 1988.

[f]U.S. coal operations were sold in 1988.

NF = No foreign affiliation during this period.

Sources: Coal ownership: U.S. Securities and Exchange Commission Form 13-D; *Moody's Industrial Manual, 1985-88*; U.S. Department of Commerce, International Trade Administration, *Foreign Direct Investment Activity in the United States*. Coal company production data: 1989: *Keystone News Bulletin* (Stamford, CT: Maclean Hunter Publishing Co., June 1990). 1988: *Keystone News Bulletin* (Stamford, CT: Maclean Hunter Publishing Co., July 1989). 1987: *Keystone News Bulletin* (Stamford, CT: Maclean Hunter Publishing Co., May 27, 1988). 1986: *1987 Keystone Coal Industry Manual* (New York: McGraw-Hill Inc., 1987). 1985: *1986 Keystone Coal Industry Manual* (New York: McGraw-Hill Inc., 1986). U.S. total for coal production: Energy Information Administration, *Quarterly Coal Report*, January-March 1990, DOE/EIA-0121(90/1Q) (Washington, DC, August 1990).

Figure 4. Production and Share of U.S. Total Bituminous Coal and Lignite for Foreign-Affiliated U.S. Companies, 1980-1989



Sources: **1980:** U.S. Department of Energy, *Annual Report to Congress*, DOE/S-0010(84) (Washington, DC, September 1984), Appendix A. **1981:** Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1983*, DOE/EIA-0466 (Washington, DC, February 1985). **1982-1989:** *Keystone Coal Industry Manual*, 1983-1990 Editions. **U.S. Totals:** Energy Information Administration, *Quarterly Coal report*, DOE/EIA-0121(90/1Q) (Washington, DC, August 1990).

Table 13. Foreign Participation in U.S. Uranium Exploration and Development, 1976-1989

Year	Exploration and Development Expenditures by Foreign Companies	Total U.S. Exploration and Development Expenditures	Foreign Expenditures as a Percent of U.S. Total	Number of Foreign-Affiliated Companies
	(million dollars)			
1976	13.2	170.7	8	15
1977	21.7	258.1	8	17
1978	39.3	314.3	13	31
1979	34.1	315.9	11	28
1980	37.6	267.0	14	28
1981	24.6	144.8	17	25
1982	14.6	73.6	20	14
1983	4.8	36.9	13	9
1984	6.6	26.5	25	9
1985	5.6	20.1	28	6
1986	12.0	22.1	55	8
1987	11.9	19.7	60	11
1988	8.9	20.1	44	11
1989	6.1	14.8	42	7

Source: Energy Information Administration, *Uranium Industry Annual 1989*, DOE/EIA-0478(89) (Washington, DC, August 1990), pp. 11, 12.

4. Financial Profiles and Transactions of Foreign-Affiliated U.S. Energy Companies

As stated in Chapter 2 of this report, the measures of FDI and associated income published by the U.S. Department of Commerce are designed to conform with the international transactions accounts. These measures are not designed to gauge the performance of foreign-affiliated U.S. companies from a financial reporting perspective. In order to provide a financial performance perspective, comparisons of corporate financial indicators between foreign-affiliated U.S. energy companies and other U.S. energy companies are presented in the following section.[22]

Profit and Investment Trends

Higher oil prices in 1989 led to mixed financial results among U.S. petroleum companies. On an annual basis, the U.S. wellhead price of crude oil rose by over $3 per barrel between 1988 and 1989.[23] The oil price rise more than offset the effects on U.S. oil and gas producers of a 6-percent fall in U.S. oil production. As a result, income from U.S. oil and gas operations rose substantially from the prior year's level. For publicly traded companies classified primarily as oil and gas producers, net income rose from negative $0.2 billion in 1988 to a positive $1.6 billion in 1989.[24] However, rising crude oil prices were not fully recovered by refined product price increases during 1989, despite a brief run up in gasoline prices following the Exxon Valdez oil spill and a record cold December which led to a sharp rise in heating oil prices. This squeeze on refining margins led to a decline in income from U. S. refining and marketing operations in 1989. Income from major petroleum companies' U.S. refining and marketing operations declined 39 percent between 1988 and 1989, and for independent refiners, income declined 20 percent.[25] Nevertheless, U.S. refining and marketing income in 1989 was considerably improved from the 1983-1987 period. The major petroleum companies' financial performance additionally was impaired by reduced income from their chemical businesses.

Unusual items noticeably affected the bottom-line financial results of U.S. energy companies in 1988 and 1989. In particular, in 1988, Pennzoil realized an extraordinary after-tax gain of $1.6 billion from a litigation settlement with Texaco (Texaco recorded the effects of this settlement in their 1987 income statement); and, in 1989, Chevron and Exxon registered non-recurring after-tax charges against income totalling $2.4 billion, largely related to environmental matters.[26] On balance, U.S. energy companies' net income fell by 10 percent between 1988 and 1989 and their profitability, as measured by return on equity, declined from 12.8 percent to 11.3 percent (Table 14). However, excluding the effects of the unusual items noted above, net income rose 7 percent over the period and return on equity rose slightly, from 12.0 percent to 12.4 percent.

Overall manufacturing profits were hurt by a slowdown in economic growth. Corporate profits declined by 6 percent between 1988 and 1989 and return on equity declined from 16.1 percent to 14.2 percent (Figure 5). The large gap in profitability between energy companies and the rest of U.S. industry, arising from the oil price crash of 1986, continued to narrow in 1989.

For foreign-affiliated U.S. energy companies, net income rose 9 percent, as did revenues and cash flow (Table 15).[27] The improvement in income reflected increased profits from oil and gas operations which more than offset reductions in income from refining and marketing. Return on equity also

[22]The financial information presented in this section was drawn from the consolidated financial statements contained in Standard and Poor's Compustat II Industrial File. The U.S. energy industry comparison group is composed of companies, other than the foreign-affiliated companies on the Compustat file that are classified under the four-digit Standard Industrial Classification (SIC) industry categories of crude oil and natural gas production (1311), petroleum refining (2911), oil field services (1381, 1382, and 1389), and bituminous coal and lignite production (1220 and 1221), excluding companies that have been identified as foreign-affiliated, or companies whose operations are foreign-based or companies whose operations are already included in U.S. companies that have been identified as foreign-affiliated.

[23]Energy Information Administration, *Monthly Energy Review*, June 1990, DOE/EIA-0035(90/06) (Washington, DC, September 1990).

[24]Based on Compustat II Industrial File.

[25]"Improved Energy Profits Offset by Refining Results in 1989," Energy Information Administration, *Monthly Energy Review*, December 1989, DOE/EIA-0035(89/12) (Washington, DC, March 1990), pp. 1-6.

[26]Chevron Corporation, *Annual Report 1989* and Exxon Corporation, *1989 Annual Report*.

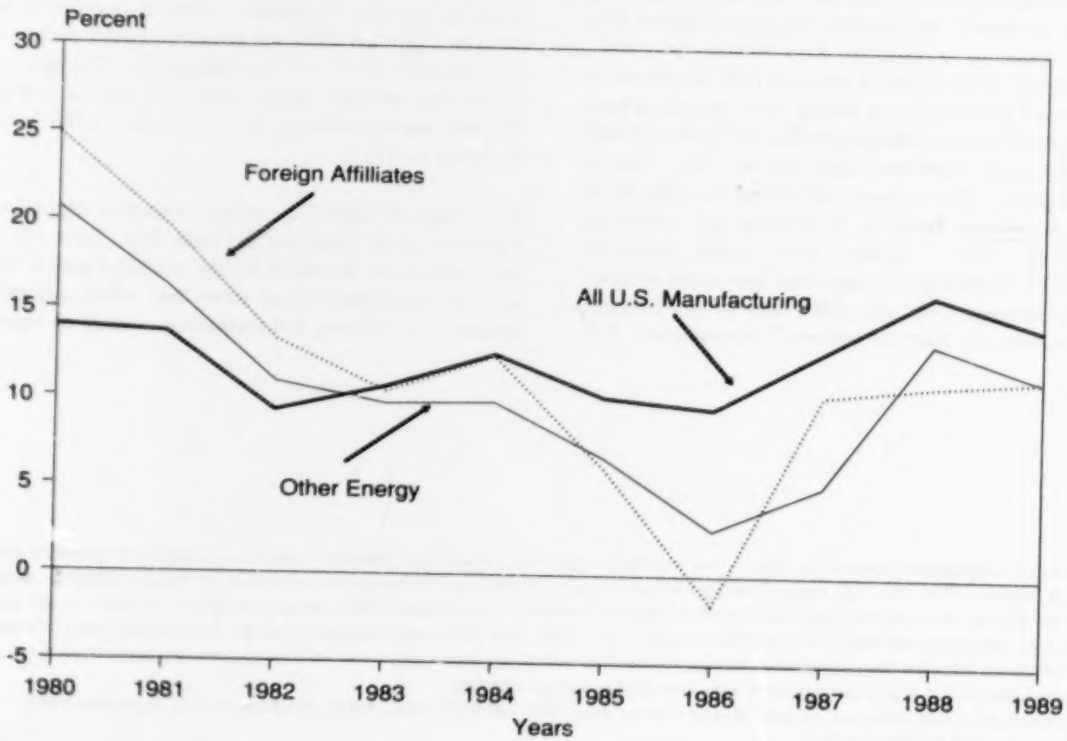
[27]BP America discontinued publication of their consolidated financial statements beginning with the 1989 reporting year. Consequently, their financial results are not included in Table 14 and Table 15.

Table 14. Annual Change in Net Income and Return of Stockholders' Equity, 1987-1989
(Percent)

Industries	Percent Change in Net Income			Return on Stockholders' Equity[a]		
	1987	1988	1989	1987	1988	1989
U.S. Energy Companies[b]	279.3	100.3	-10.4	6.3	12.8	11.3
All U.S. Manufacturing Corporations	[c]39.1	[c]33.7	[c,d]-6.4	12.8	16.1	[d]14.2

[a]Net income as a percent of year-end stockholders' equity.
[b]Includes both groups of companies shown in Table 16.
[c]Percent change in corporate profits after income taxes.
[d]1989 figure is the annual average through the third quarter.
Sources: Energy companies: Compustat II Industrial File. Corporate profits after income taxes for all U.S. manufacturing corporations and return on stockholders' equity for all U.S. manufacturing corporations: *Economic Report of the President February 1990*, p. 398.

Figure 5. Return on Equity for Foreign-Affiliated U.S. Energy Companies, Other Energy Companies, and All U.S. Manufacturing Corporations, 1980-1989



Sources: **Energy companies:** Compustat II Industrial File and company annual reports. **All U.S. manufacturing corporations:** *Economic Report of the President*, February 1990.

Table 15. Selected Financial Information for Foreign-Affiliated U.S. Energy Companies, 1988-1989

Category	Foreign-Affiliated U.S. Energy Companies[a]			U.S. Energy Industry Comparison Group[b]		
	1988	1989	Percent Change	1988	1989	Percent Change
	(billion dollars)			(billion dollars)		
Financial Items						
Revenues	74.8	81.7	9.2	341.5	364.2	6.6
Net Income	4.6	5.0	8.7	18.6	15.8	-15.1
Cash Flow[c]	10.5	11.5	9.5	43.2	40.5	-6.3
Capital Outlays	10.9	10.3	-5.5	38.3	40.0	4.4
Total Assets	87.6	94.2	7.5	373.1	382.7	2.6
	(percent)					
Financial Ratios						
Return on Equity[d]	10.9	11.3		13.3	11.2	
Dividends/Net Income	49.1	50.1		56.6	84.9	
Dividends/Cash Flow	21.6	21.9		24.5	33.0	
Debt/Equity[e]	32.8	32.0		58.0	59.9	

[a]Includes incorporated U.S. energy companies which are foreign-affiliated and for which publicly reported financial information is available. Also included are foreign parent companies for which data for U.S. operations were not separately disclosed. For 1988 these companies were: Adobe Resources Corp., American Petrofina, Anadarko Petroleum Corp., Arabian Shield Development Co., Avalon Corp., Barret Resources Corp., Bellwether Exploration Co., Castle Energy Corp., Chieftain Development Co. Ltd., Daleco Resources Corp., DI Industries Inc., DRX Inc., E.I. du Pont de Nemours and Company, Exploration Co., Exploration Company of Louisiana, Gold King Consolidated Inc., Gulf Resources and Chemical Co., Hamilton Oil Corp., Harcor Energy Co., Harken Energy Corp., Hondo Oil and Gas Co., Inspiration Resources Corp., Inter-City Gas Corp., M.A. Hanna Co., MSR Exploration Ltd., New London Inc., Newmont Mining Corp., Oceanic Exploration Co., Panhandle Eastern Corp., Petrotech Inc., Placer Dome Inc., Premier Resources Ltd., Presidio Oil Co., Ranger Oil Ltd., Rio Algom Ltd., Santa Fe Energy Resources Inc., Schlumberger Ltd., Seagull Energy Corp., Shell Oil Co., Sunshine Mining Co., Taurus Petroleum Inc., Total Petroleum (North America), Trinity Resources Ltd., Triton Energy Corp., Unimar Co., Valex Petroleum Inc., Westmoreland Coal Co., and Woodbine Petroleum Inc. In 1989, Coda Energy Inc., and Caspen Oil and Gas Co., were included. In 1989, the following companies were not included: Inter-City Gas Corp. (divestiture of energy resources businesses), Perrotech Inc. (divestiture of oil and gas properties), U.S. Oil Company (divestiture of oil and gas properties), and Valex Petroleum Inc. (taken private in 1989). The following companies were included in 1988 in the previous edition of this report but are not included for 1988 and 1989 in the present edition of this report because their consolidated financial data are no longer publicly available: BP America Inc. and Pyro Energy Corp. All data for the companies were derived from the Compustat II Industrial File.

[b]The comparison group is derived from aggregates available from the Compustat II Industrial File for the following four digit (SIC) industries: 1220 (bituminous coal, lignite mining), 1221 (bituminous coal, lignite surface mining), 1311 (crude petroleum and natural gas production), 1381 (oil and gas well drilling), 1382 (oil and gas field exploration), 1389 (oil and gas field services not elsewhere classified), and 2911 (petroleum refining). The Compustat aggregates are adjusted by subtracting out data for companies which have been identified as foreign-affiliated, or whose operations are foreign-based, or foreign-based companies whose U.S. operations are already included in U.S. companies identified as foreign-affiliated.

[c]Measured as cash flow from operations.

[d]Defined as net income divided by year-end stockholder's equity.

[e]Defined as year-end long-term debt divided by year-end stockholders' equity.

Source: Compiled from Compustat II Industrial File and company annual reports.

modestly improved, from 10.9 percent to 11.3 percent. Net income for other energy companies fell 15 percent. However, if the unusual items noted above are excluded, then net income rose 7 percent, which was close to the improvement in the foreign affiliates' net income. Similarly, excluding the effects of the unusual items, return on equity improved slightly for the other energy companies, shown in Table 15, from 12.3 percent to 12.7 percent.

Capital expenditures of the foreign-affiliated U.S. energy companies declined 6 percent in 1989. The rise in crude oil prices between 1988 and 1989 might have been expected to be a stimulus to greater capital expenditures for oil and gas development. Indeed, nearly 60 percent of the foreign affiliates increased their capital expenditures between 1988 and 1989. The decline in capital expenditures was more than accounted for by reductions in expenditures for oil and gas properties by Shell and American Petrofina. In 1988, American Petrofina spent $624 million for property acquisitions, including the acquisition of Tenneco's onshore properties in the Southwest, but, in 1989, this company spent only $11 million for oil and gas properties. Shell expended $842 million in 1988, including $340 million for proven properties and $271 million for Federal leases in Alaska, but only $168 million in 1989.[28] Excluding these amounts, capital expenditures of foreign affiliates rose 7 percent in 1989. Other U.S. energy companies registered a 4-percent increase in capital expenditures.

A noticeable development in 1989 was the large increase in the share of cash flow paid out as dividends by the energy industry comparison group. The rise in dividend payout, from 25 percent in 1988 to 33 percent in 1989, was primarily traceable to Texaco's payment of special dividends of $1.9 billion in 1989. The special dividends were part of Texaco's restructuring program designed to increase shareholder value.[29] Excluding this one-time dividend payment, the ratio of dividends to cash flow was 28 percent. Foreign affiliates posted a fractional rise in their dividend payout ratio.

Foreign Direct Investment Transactions in U.S. Energy Markets

Review of the composition of FDI-related transactions is useful for discerning trends and changes in the investment targets of foreign investors and the nature of the interest gained by foreign investors. This section presents a summary of equity acquisitions, mergers, joint ventures, lease acquisitions, and other transactions related to FDI activity in 1989. The transactions identified in this section were derived from a variety of public sources and do not necessarily reflect the confidential data submitted by foreign affiliates to the U.S. Department of Commerce, as reported in Chapter 2. However, the transactions reported in this section are taken from the most accurate information that is publicly available and should describe broad trends and developments in the composition of FDI in U.S. energy.[30]

Based on the information contained in this Appendix and in the Appendix of the 1988 edition of this report, the values of the identified FDI-related transactions were classified by industry and type of transaction. Petroleum continued to dominate foreign investors' interest in U.S. energy in 1989. However, the share of the value of transactions related to petroleum fell from 98 percent in 1988 to 81 percent in 1989 and the share for coal rose from 1 percent to 19 percent (Table 16). This shift resulted from a combination of a reduced level of the value of petroleum-related transactions and an increase in the number and value of coal-related transactions.

The value of petroleum-related transactions fell from $5.5 billion in 1988 to $1.6 billion in 1989. Most of the decline was related to transactions primarily involving oil and gas production, which declined from $3.3 billion to $0.6 billion. Within oil and gas, acquisition of property (leases and proved acreage) declined from $1.1 billion to $0.1 billion. The large value for property acquisitions in 1988 was largely composed of American Petrofina's acquisition of Tenneco's Southwest

[28]American Petrofina, Incorporated, *Annual Report 1989*. Shell Oil Company, *1989 Annual Report*.

[29]Texaco Inc., *Annual Report 1989*.

[30]The identified FDI-related transactions for 1989 are listed in Tables A1 and A2 in the Appendix of this report, as are the information sources. Information for 1981 and 1982 FDI-related transactions is drawn from Appendix A of the U.S. Department of Energy, *Annual Report to Congress*, DOE/S-0010(83) (Washington, DC, September 1983), and Appendix A of U.S. Department of Energy, *Annual Report to Congress*, DOE/S-0010(84) (Washington, DC, September 1984), respectively. The 1983 information appeared in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1983*, DOE/EIA-0466 (Washington, DC, February 1985), 1984 information appeared in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1984*, DOE/EIA-0466(85) (Washington, DC, December 1985), 1985 information appeared in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1985*, DOE/EIA-0466(85) (Washington, DC, January 1987), 1986 information appeared in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1986*, DOE/EIA-0466(86) (Washington, DC, December 1987), 1987 information appeared in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy*, DOE/EIA-0466(87) (Washington, DC, December 1988) and 1988 information appeared in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1988*, DOE/EIA-0466(88) (Washington, DC, December 1989). It should be noted that because the information utilized in this section can only come from public sources, validation is not always possible. Nevertheless, the information presented in this section is useful for discerning broad trends in the composition of FDI-related transactions.

Table 16. Distribution of the Value of Foreign Direct Investment Transactions[a] by Industry, 1981-1989
(Percent)

Industry	1981	1982	1983	1984	1985	1986	1987	1988	1989
Petroleum	79.6	60.3	87.8	77.2	99.1	91.5	81.3	98.4	81.0
Coal	20.2	32.4	11.3	19.7	0.9	7.6	18.7	1.1	19.0
Other	0.2	7.3	1.0	3.1	0.0	0.9	0.0	0.5	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Excludes transactions for which dollar values were not reported.
Note: Totals may not equal sum of components due to independent rounding.
Sources: 1989: The percent distribution is based on Tables A1 and A2 in the Appendix. 1981-1988: Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1988*, DOE/EIA-0466(88) (Washington, DC, December 1989).

onshore oil and gas properties for $600 million (Tenneco divested their petroleum assets in 1988, receiving nearly $8 billion in gross proceeds) and Shell's acquisition of leases in Alaska for $271 million. In 1989, there were no sales of oil and gas properties comparable to the Tenneco divestiture and there was a reduction in Federal leasing activity from 1988. Additionally, the consolidation of the U.S. oil and gas industry appeared to move at a considerably lesser pace in 1989. In 1988, there were nine FDI-related acquisitions of ownership interests in U.S. oil and gas producing companies which exceeded $100 million in value, with a total value of $2.0 billion, compared with two such acquisitions in 1989, with a total value of $0.3 billion. The two equity acquisitions in 1989 were Presidio Oil's acquisition of the assets and operations of Home Petroleum for $157 million and JAPEX's gain of a 40-percent share of the acquisition of Mark Producing for $102 million.

The total value of FDI-related transactions involving U.S. refining and marketing assets declined from $2.2 billion in 1988 to $1.0 billion in 1989. In 1988, there were four transactions related to U.S. downstream petroleum which exceeded $100 million: the formation of the Saudi-Texaco Star Enterprise joint venture for $812 million, Horsham Corporation's acquisition of Clark Oil and Refining for $650 million, Ultramar's purchase of Union Pacific's California refinery for $440 million, and BP America's purchase of Mobil's Washington refinery for $153 million. Foreign affiliates added 942,000 b/d of U.S. refining capacity in 1988 through acquisitions. In 1989, 226,000 b/d was added by foreign affiliates. Unocal and Petroleos de Venezuela formed the Uno-Ven joint venture, which had a value of $500 million, and Broken Hill Proprietary acquired Pacific Resources and their Hawaiian Independent Refinery for $378 million. Also, in 1989, Total Petroleum acquired 120 retail gasoline outlets for $115 million.

In 1989, the largest FDI-related transaction in the U.S. coal industry was Costain Group's gain of 100-percent ownership of Pyro Energy for $193 million. Prior to this transaction Costain owned 50 percent of Pyro Mining, a coal-producing subsidiary. Other coal-related transactions in 1989 included Newmont Mining's increased ownership share of Peabody Holding Company for $58 million, Peabody Holding's purchase of Panhandle Eastern's 50-percent interest in North Antelope Coal Company for $52 million, and Ashland Coal's acquisition of Coal Mac for $37 million. The only large transaction in 1988 was Pyro Mining's acquisition of Jim Smith Coal Company for $50 million.

The most noticeable shifts in the composition of transactions, between 1988 and 1989, were a drop in the share of property and lease acquisitions from 20 percent to 5 percent and an increase in the joint venture share from 17 percent to 29 percent (Table 17). The shares for stock/equity transactions and "other" (mainly purchases of existing plant and equipment) showed little change. The decline in property and lease acquisitions reflected the reduced level of acquisitions of proved oil and gas properties and Federal leases. The jump in the joint venture share was the result of the relatively large value of the Uno-Ven joint venture formation compared with the reduced overall value of FDI-related transactions in 1989.

Table 17. Distribution of the Value of Foreign Direct Investment Transactions[a] by Type of Transaction, 1981-1989
(Percent)

Type of Transaction[b]	1981	1982	1983	1984	1985	1986	1987	1988	1989
Stock/Equity Acquisition	74.1	58.2	16.9	61.5	49.1	57.6	91.8	51.8	53.2
Property or Lease Acquisition	16.7	10.6	55.7	31.6	29.2	24.2	4.4	19.8	4.9
Joint Venture	9.2	10.2	4.1	0.9	0.3	16.3	1.9	17.1	28.9
Other	(c)	21.0	23.4	6.0	21.4	1.9	1.9	11.3	12.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

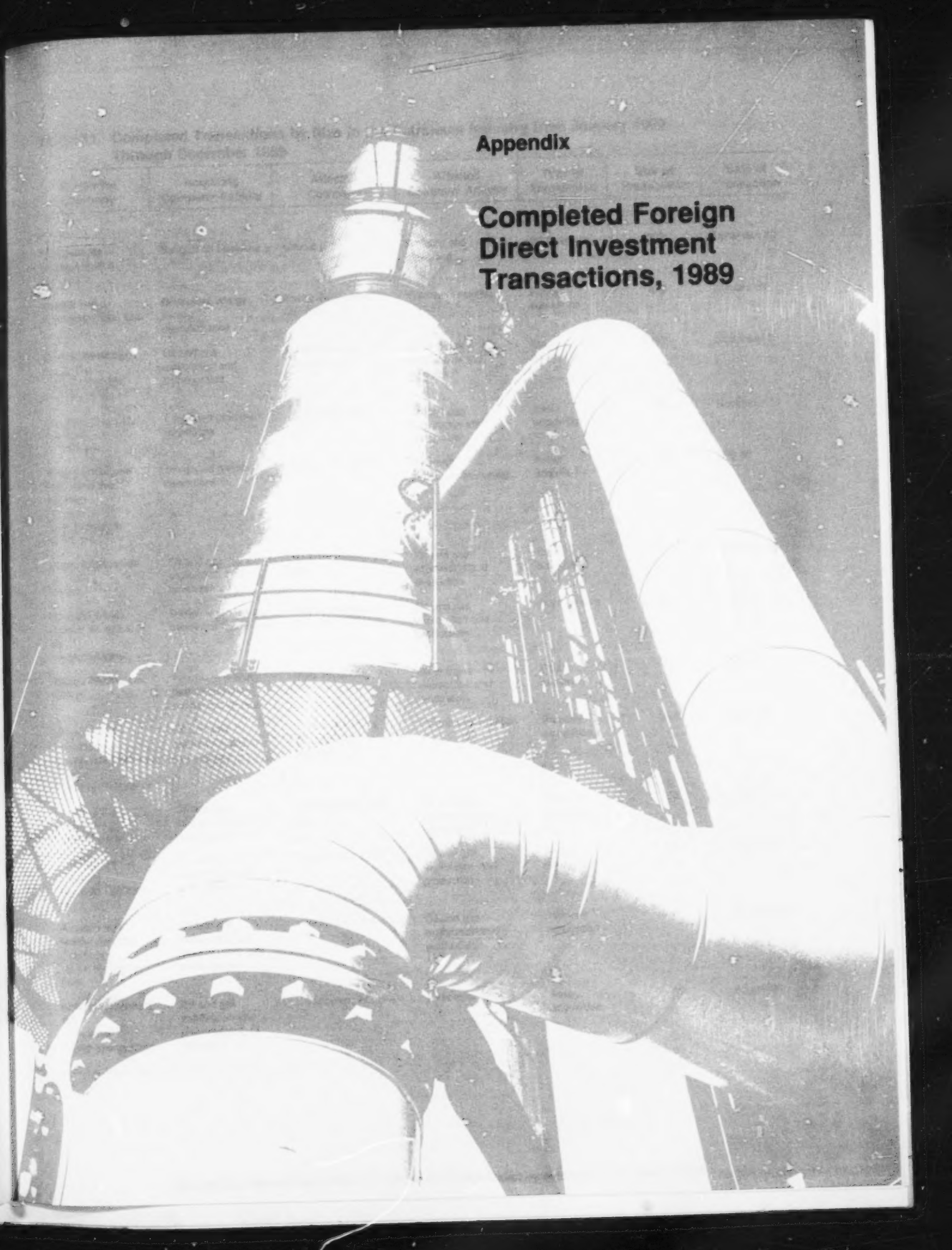
[a]Excludes transactions for which dollar values were not reported.

[b]Stock/equity acquisitions include purchases of common stock and purchases of subsidiary companies of U.S. corporations. Property or lease acquisitions include purchase of producing energy properties and acquisitions of leases from Federal and State governments. Joint ventures include the value of a foreign entity's share in a joint venture in the United States. Other transactions largely consist of plant expansions, long-term supply contracts, and purchase of existing plant and equipment.

[c]Less than 0.05 percent.

Note: Totals may not equal sum of components due to independent rounding.

Source: 1989: the percent distribution is based on Tables A1 and A2 in the Appendix. 1981-1988: Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1988*, DOE/EIA-0466(88) (Washington, DC, December 1989).



Appendix

Completed Foreign Direct Investment Transactions, 1989

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1989 Through December 1989

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
Petroleos de Venezuela, S.A. (Venezuela)	National oil company	Unocal (CA)	Refining and marketing	Joint venture	500	December 89
Broken Hill Proprietary Co., Ltd. (Australia)	Diversified energy, mining, manufacturing	Pacific Resources, Inc. (HI)	Petroleum refining	Equity acquisition	378	January 89
Electra Investment Trust, P.L.C. (United Kingdom) Presidio Oil Co.	Oil and gas exploration and development	Home Petroleum Corp. (CO)	Oil and gas exploration and production	Equity acquisition	157	December 89
Seagram Co., Ltd. (Canada) Conoco, Inc.	Integrated petroleum operations	Enerfin Partners I	Oil and gas exploration and production	Asset acquisition	135	November 89
Total Compagnie Francaise des Petroles (France) Total Petroleum (N.A.), Inc.	Integrated petroleum operations	Truman Arnold Cos.	Retailing, petroleum marketing	Asset acquisition	115	July 89
Japan Exploration Co., Ltd. (Japan)	Oil and gas exploration and development	Mark Producing, Inc. (TX)	Oil and gas exploration and production	Equity acquisition	101.8	February 89
Hyundai Corp./ Opicoil America, Inc. (Korea/Taiwan)	Diversified holdings, petroleum operations	Phillips Petroleum Co. (OK)	Oil and gas exploration and production	Joint venture	80	June 89
Nippon Mining Co. (Japan)	Petroleum refining, petrochemicals, nonferrous minerals	Mark Producing, Inc. (TX)	Oil and gas exploration and production	Equity acquisition	40	June 89
International Petroleum Investment Partners (Algeria) Anadarko Petroleum	Oil and gas exploration and development	Parker & Parsley Development Partners, L.P.	Oil and gas holdings	Property acquisition	25.3	August 89
Lasmo, P.L.C. (United Kingdom) Lasmo Energy, Inc.	Oil and gas exploration and development	Triad Energy Corp.	Oil and gas exploration and production	Property acquisition	20	June 89
Cometra Oil Co. (Belgium) American Cometra, Inc.	Oil and gas exploration and development	Bright & Co. (TX)	Oil and gas exploration and production	Property acquisition	16	August 89
Minerals and Resources, Ltd. (Bermuda) Adobe Resources Corp.	Oil and gas exploration and development, gas transmission	Forest Oil Corp. (CO)	Oil and gas exploration and production	Property acquisition	8	November 89
Metallgesellschaft AG (Germany) Castle Energy Corp.	Oil and gas exploration and development, oil refining	Capcerco, Inc. (PA)	Petroleum refining	Asset acquisition	7.9	August 89

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1989 Through December 1989 (Continued)

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
Traco International, N.V. (Netherlands) Harken Energy Corp.	Oil and gas exploration and development	Texas Power Corp. (TX)	Natural gas gathering, transmission, and marketing	Equity acquisition	7.9	January 89
Pittencrief, P.L.C. (United Kingdom) Pittencrief America, Inc.	Oil and gas exploration and development	Seahawk Oil International	Oil and gas exploration and production	Property acquisition	4.5	November 89
International Petroleum Investment Partners (Algeria) Anadarko Petroleum	Oil and gas exploration and development	Maxus Exploration Co. (TX)	Oil and gas exploration and production	Property acquisition	4.6	February 89
Channel Hotels and Properties, Ltd. (United Kingdom) Sunlite, Inc.	Oil and gas exploration and development, real estate	Bannon Energy Corp.	Oil and gas exploration and production	Property acquisition	4.3	February 89
Lasmo, P.L.C. (United Kingdom) Lasmo Energy, Inc.	Oil and gas exploration and development	Southwest Royalties, Inc.	Oil and gas exploration and production	Property acquisition	3.5	March 89
United Kingdom Pensions Trust, Ltd. (United Kingdom) Bellwether Exploration Co.	Oil and gas exploration and development	Winchester Energy, Inc.	Oil and gas exploration and production	Property acquisition	3.1	May 89
Bridge Oil Co. (Australia) Bridge Oil USA, Inc.	Oil and gas exploration and development	Chevron (CA)	Integrated petroleum operations	Property acquisition	2.6	October 89
Petrobras (Brazil) Petrobras America, Inc.	National oil company	Texaco, Inc. (NY)	Oil and gas exploration and production	Lease acquisition	2.2	August 89
Cornwall Petroleum Corp., N.L. (Australia) HarCor Energy, Inc.	Oil and gas exploration and development	Penroc Oil Co.	Oil and gas exploration and production	Property acquisition	2	August 89
Ambrit International, P.L.C. (United Kingdom)	NA	Hardy Oil and Gas	Oil and gas exploration and production	Equity acquisition	2	
Traco International, N.V. (Netherlands) Harken Energy Corp.	Oil and gas exploration and development	Bob Harris Oil Co. (TX)	Motor fuel outlets, convenience stores	Asset acquisition	1.6	March 89
New London, P.L.C. (United Kingdom) New London, Inc.	Oil and gas exploration and development	NA	--	Property acquisition	0.9	November 89
United Kingdom Pensions Trust, Ltd. (United Kingdom) Bellwether Exploration Co.	Oil and gas exploration and development	NA	--	Property acquisition	0.7	June 89

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1989 Through December 1989 (Continued)

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
Western Exploration Pty., Ltd. (Australia) The Exploration Co.	Mineral, oil, and gas exploration and development	NA	--	Property acquisition	NA	July 89
Metallgesellschaft AG (Germany) Metallgesellschaft Corp.	Diversified holdings	Castle Energy Corp. (PA)	Oil and gas exploration and production, refining	Equity acquisition	NA	May 89

NA = Not available.
Source: See page 36.

Table A2. Completed Transactions by Size in the Coal Industry from January 1989 Through December 1989

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
Costain Group, P.L.C. (United Kingdom) Costain Holdings, Inc.	Diversified holdings	Pyro Energy Corp. (IN)	Coal production and marketing	Equity acquisition	193	September 89
Consolidated Gold Fields, P.L.C. (United Kingdom) Newmont Mining	Mining (gold, other natural resources)	Peabody Holding Co. (WV)	Coal mining	Equity acquisition	57.9	September 89
Consolidated Gold Fields, P.L.C. (United Kingdom) Peabody Holding Co.	Coal mining	North Antelope Coal Co. (WY)	Coal mining	Equity acquisition	52	April 89
Inoco, P.L.C. (United Kingdom)	Real estate development	Gulf Resources and Chemical Corp. (MA)	Coal mining	Equity acquisition	41	February 89
Saarberg Coal International (Germany) Ashland Coal, Inc.	Coal mining	Coal Mac, Inc. (KY)	Coal mining	Equity acquisition	36.9	January 89

Source: See page 36.

Sources

Informational material used in compiling Tables A1 and A2 includes:

- *The Wall Street Journal*, various issues, 1989 and 1990.
- *Business Week*, various issues.
- Company financial reports: annual reports to stockholders, annual reports on Securities and Exchange Commission (SEC) Form 10-K, and filings on SEC Schedule 13-D.
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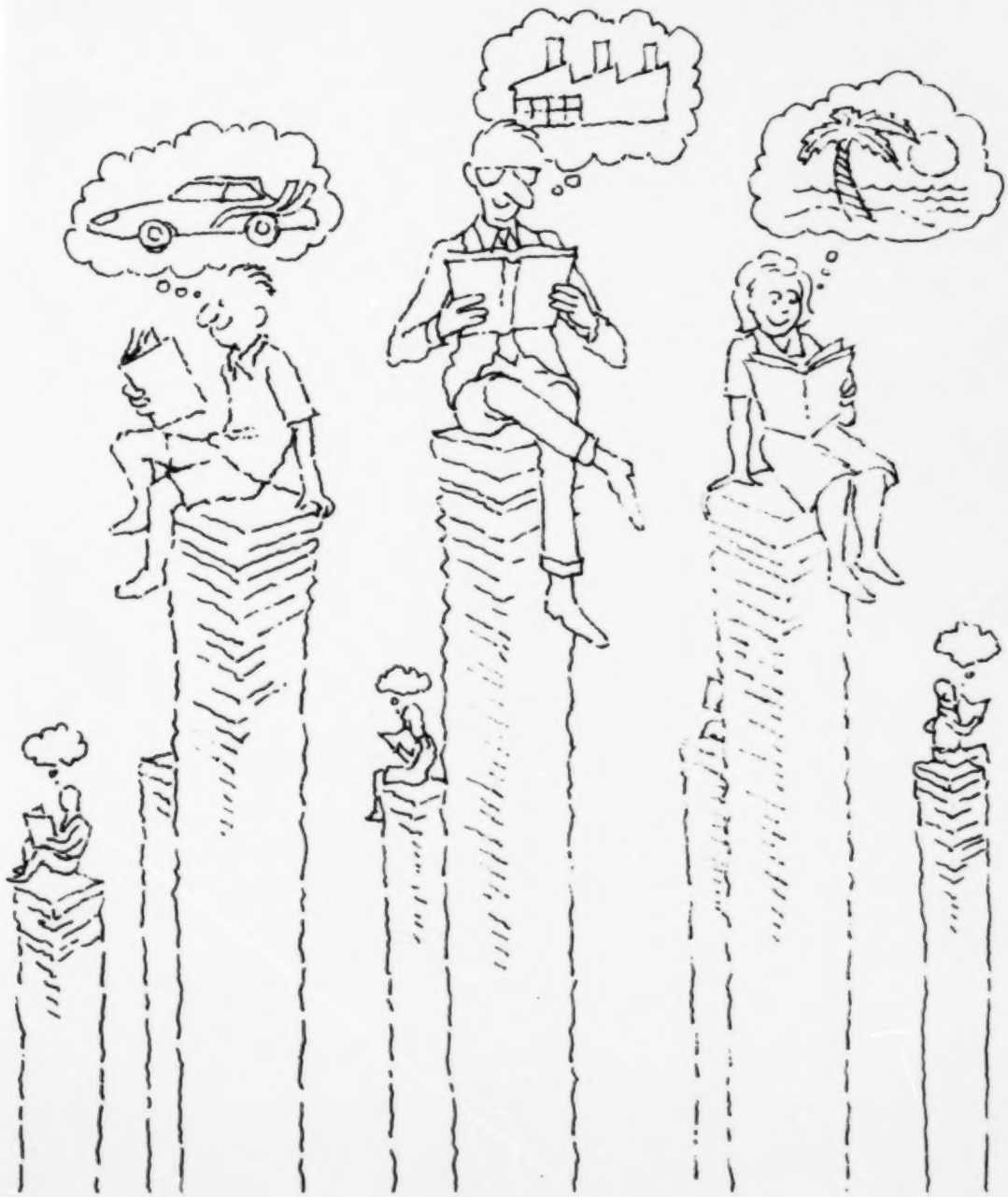

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